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PACIFIC PULP & PAPER INDUSTRY

Volume 5
Number 2

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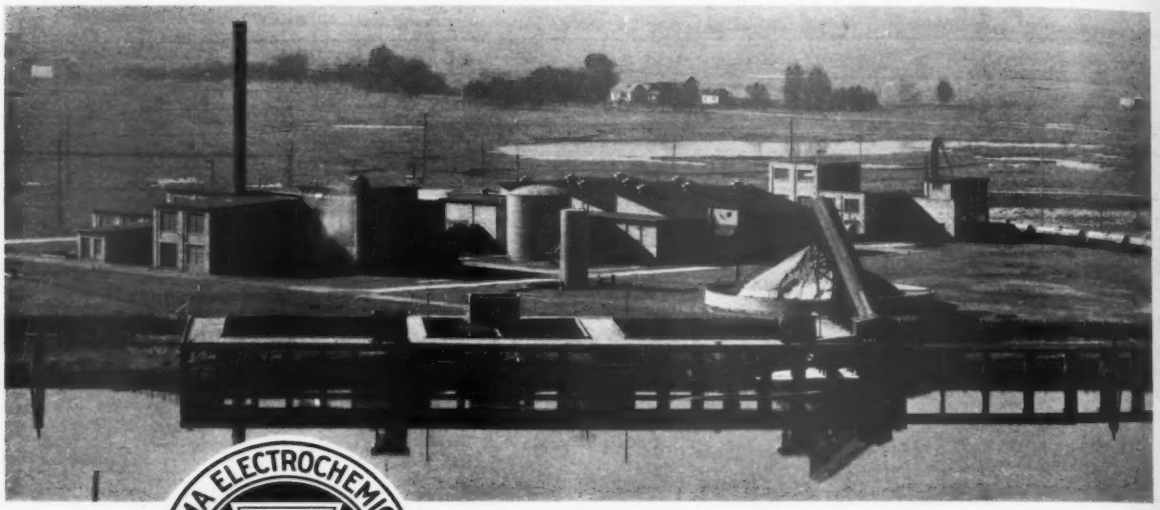
Brubaker Aerial Photo, Portland

The Shaffer Box Company, Tacoma, combines pulp and lumber manufacture

FEBRUARY + 1931

Liquid CHLORINE



TACOMA ELECTROCHEMICAL CO.
KEYSTONE BRAND
TACOMA, WASH.
SUBSIDIARY PENNSYLVANIA SALT MFG. COMPANY.

For 80 years, since its founding in 1850, the PENNSYLVANIA SALT MANUFACTURING COMPANY has served the pulp and paper industry with chemicals of high quality. As one of the pioneer producers of Liquid Chlorine, PENN SALT has long been one of the industry's chief sources of dependable supply.

With the expansion Westward of pulp and paper making, it was a natural step for the company to extend its chemical service to embrace the Pacific Coast industry. Construction of a modern electrochemical plant at Tacoma, Washington, was completed in 1929, and from this advantageous location Liquid Chlorine is immediately available to the West Coast's pulp and paper industry.

Ideally Located to Render Most Efficient Service

TACOMA ELECTROCHEMICAL CO.

TACOMA WASHINGTON.

A SUBSIDIARY OF THE PENNSYLVANIA SALT MANUFACTURING CO.

Pacific Pulp & Paper Industry is published once a month—except in March, when publication is semi-monthly—at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00. Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.

"ROLL CALL"

Beloit Removable Fourdrinier
Beloit High Speed Super Shake
Beloit Suction Couch and Suction Press Rolls

THE BELOIT ROLL-CALL includes over 100 paper mills from coast to coast—practically every major installation in recent years. Every mill shown in this group photograph (besides a number of others) operates a Beloit Removable Fourdrinier. All of them (except those having newsprint machines) also operate the Beloit High-Speed Shake.

In most of these mills and scores of others you will also find the famous Beloit Suction Couch and Suction Press Rolls operating on wide, high-speed machines as well as narrow, slower ones, making all types of paper.

Do you want further proof of Beloit performance? It's yours for the asking. Tell us in what modern feature of papermaking you are interested—and we will gladly present the facts for consideration.

The *Beloit* Way is the *Modern* Way

BELOIT IRON WORKS, BELOIT, WIS., U.S.A.

The BELOIT

When writing to BELOIT IRON WORKS *please mention* PACIFIC PULP AND PAPER INDUSTRY

SPEED IN TURNING PULP INTO PROFITS DEPENDS AFTER ALL UPON THE FELTS

The demand for higher and higher speeds and greater felt economy are met in Co-related Kenwood Tanned Felts. When the paper machine is clothed throughout with these stronger, more open, longer lived felts, the resulting performance is gratifying.

The reason for this improved result is that the fundamentally sound Kenwood design is given full opportunity to achieve full efficiency when each felt, (wets and presses) is built to do its work in conjunction with the other.

KENWOOD WOOL PRODUCTS

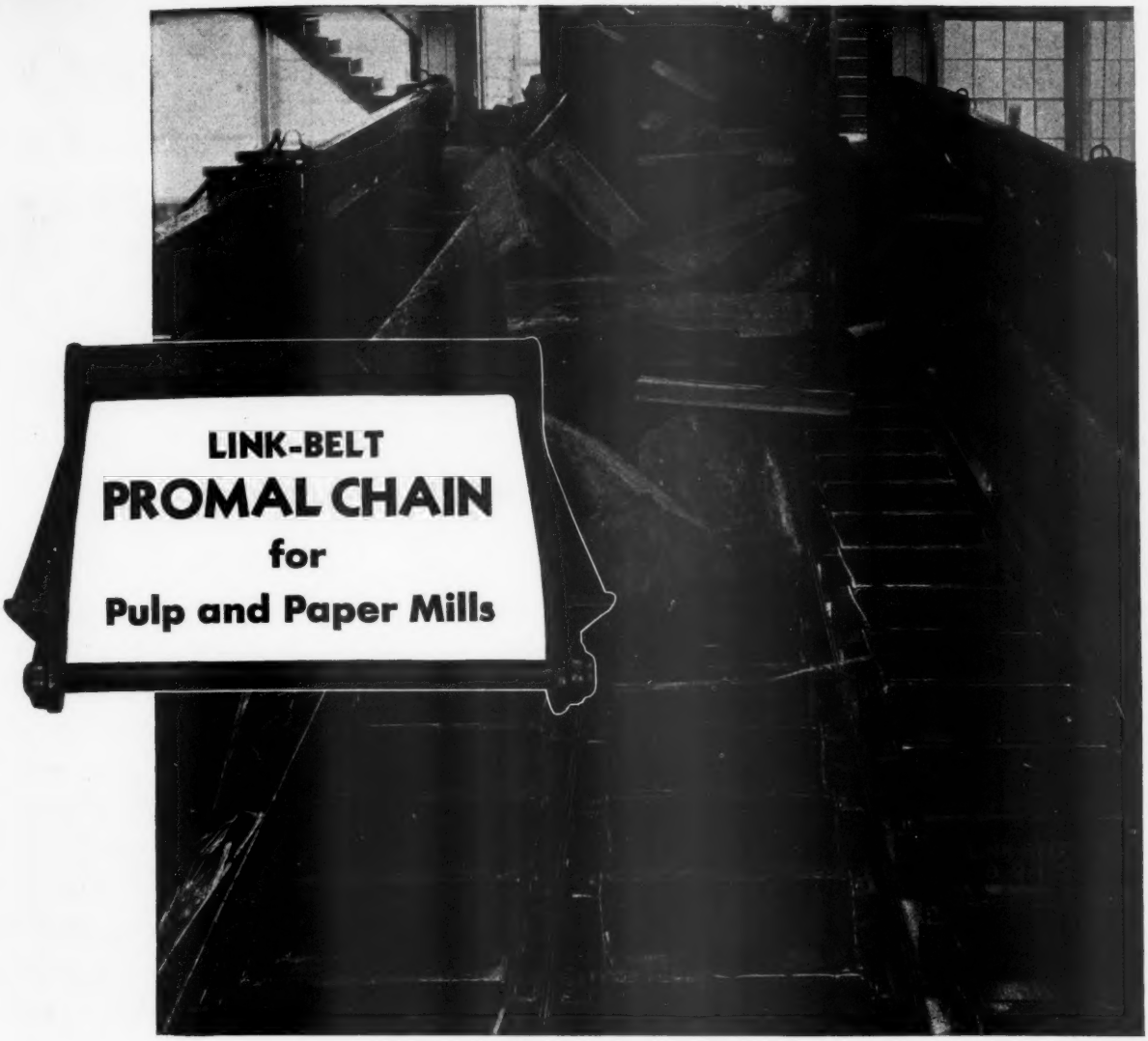
Today's Improved Kenwood Tanned Felts are the result of progressive, scientific development. Kenwood pioneered the one-sided board felt. The same research service developed and perfected the Kenwood Tanning Processes which protect the felt from the deteriorating effects of acids in the water. A third major development is the new Kenwood method of yarn construction, while adding neither to the weight nor size of the yarn, provides greater openness and strength for the felt.

F. C. HUYCK & SONS

KENWOOD MILLS, ALBANY, N. Y.

KENWOOD MILLS LTD., ARNPRIOR, ONTARIO, CANADA

KENWOOD FELTS



In the new Camas mill of the Crown Willamette Paper Company, Camas, Washington, this three strand H-480 Promal Chain Conveyor delivers blocks to a battery of chippers.

PULP and paper mill operating men have been among the first to appreciate the superior qualities of Link-Belt Promal Chain. Those who have put Promal Chain in service under the severest of conditions now heartily endorse the great strength, toughness and resistance to abrasion which are responsible for the longer life, greater reliability, and larger economy of this super-service chain. You, too, should have complete information on Link-Belt Promal Chains. Send for Promal Chain Book No. 1050. Address the nearest Link-Belt Office.

PROMAL is not limited to chains. Cast products requiring PROMAL characteristics can be shipped

4206

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Leading Manufacturers of Equipment for Handling Materials Mechanically and for the Positive Transmission of Power

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Sedro-Woolley, Wash. - - Skagit Steel and Iron Works
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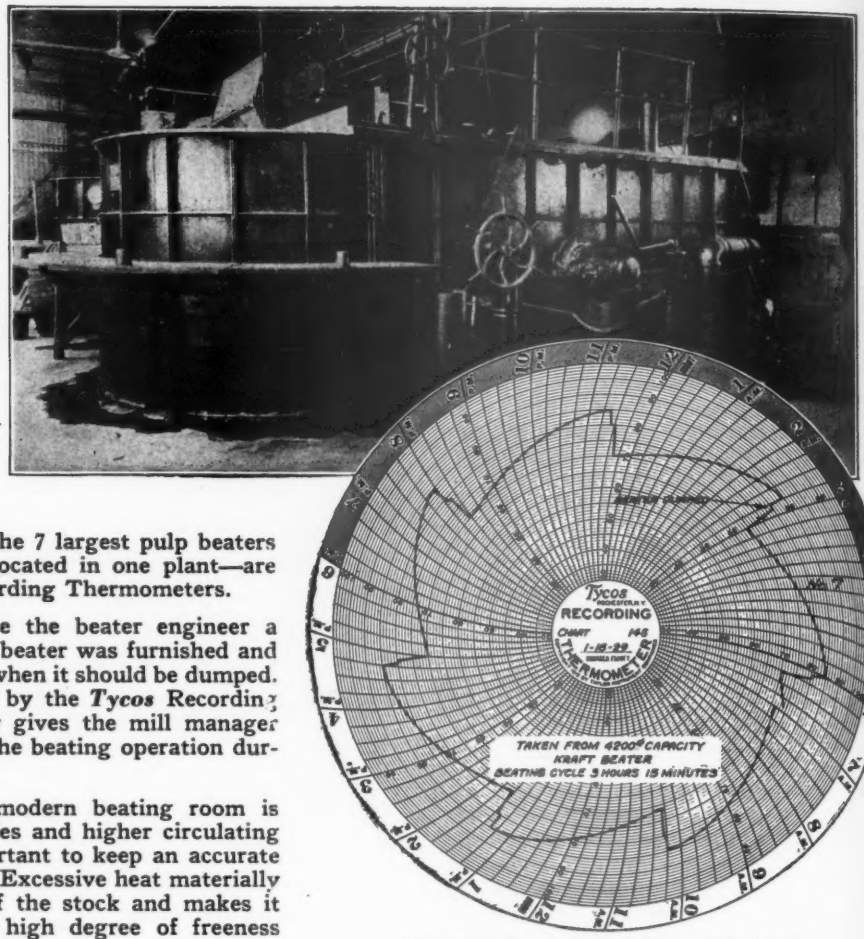
LINK-BELT

CONVEYING & POWER TRANSMISSION EQUIPMENT

. . . On the World's 7 Largest Pulp Beaters



Photograph of one of the 7 largest pulp beaters in the world, located in a Northern paper mill, and chart record taken from one of the *Tycos* Recording Thermometers used on these beaters. The Instrument on the beater shown is not visible as it is placed on the back, conveniently close to the one that can be seen on the second machine, in the left background.

THE operations of the 7 largest pulp beaters in the world—all located in one plant—are checked by ***Tycos*** Recording Thermometers.

These Instruments give the beater engineer a record of the time each beater was furnished and tell him approximately when it should be dumped. A chart record written by the ***Tycos*** Recording Thermometer each day gives the mill manager an accurate history of the beating operation during the entire 24 hours.

As the trend in the modern beating room is toward greater capacities and higher circulating speeds, it is most important to keep an accurate check of temperatures. Excessive heat materially affects the character of the stock and makes it difficult to obtain the high degree of freeness often desired.

There are over 70 applications for ***Tycos*** Instruments in the Paper Industry. These include Industrial and Recording Thermometers, Pyrometers, Hygrometers and Hydrometers, Temperature, and Pressure Regulators, and Pressure and Vacuum Gauges.

Taylor Instrument Companies

Rochester, N. Y., U. S. A.

IN CANADA—Taylor Instrument Companies of Canada, Ltd., *Tycos* Building, Toronto

Manufacturing Distributors in Great Britain, Short and Mason, Ltd., London—E. 17

Tycos Temperature Instruments

INDICATING - RECORDING - CONTROLLING

The
BAGLEY & SEWALL Co.
builders of the world's largest and fastest paper machines, is licensed, equipped and prepared to build and install the
MINTON VACUUM DRYER
with the adequate resources and facilities and thorough understanding born of over a century's intimate experience with pulp and paper maker's requirements.
Designed and Built by
THE BAGLEY & SEWALL CO.
Watertown, N.Y., U.S.A.

Satisfactory Service!

at Your Command

PAPER MILL MACHINERY

For Your Particular Requirements

The Undercut Trimmer

An Automatic Clamping Cutter, conceded the BEST Trimmer for THE PAPER MILL, replacing other makes of cutters where accuracy and strength are a factor in efficient production with minimum cost of maintenance. Equipped with motor or pulley drive, and safety starting device as desired.

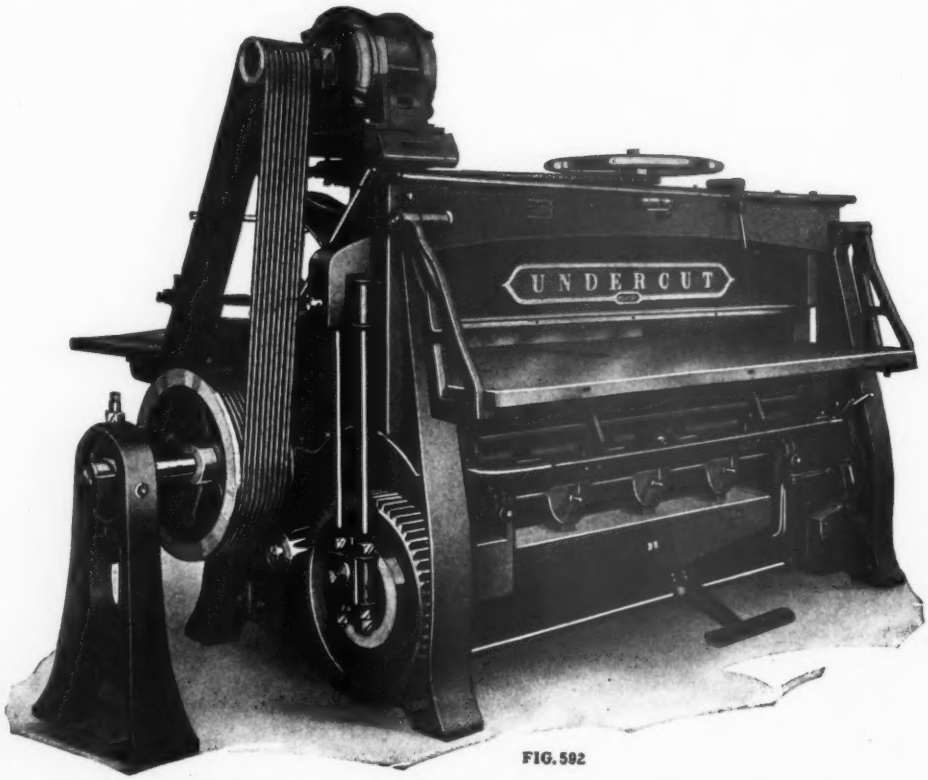
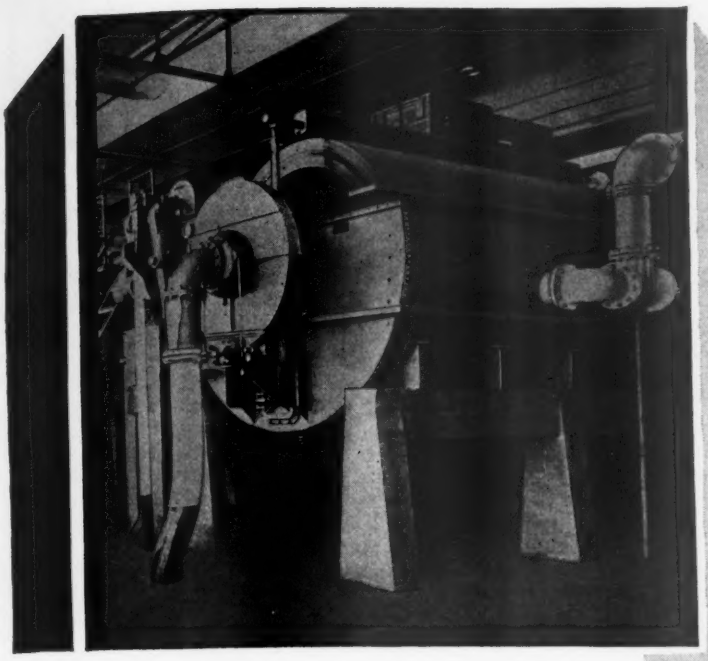


FIG. 592

THE SMITH & WINCHESTER MFG. CO.

Dept. MFP, SOUTH WINDHAM, CONN.

— PAPER BAG MAKING MACHINERY —



. . . How the Oliver United Save-All *is* SAVING COAL *for a Paper Mill*

IN a certain New England paper mill, two 8′ x 14′ Oliver United Save-Alls are so clarifying the mill water that it is being re-circulated. . .

. . . and the heat recovered in this water is resulting in a daily saving in coal equivalent to 100 H. P.

The Oliver United Save-All saves in fiber, in water, in heat. It is rightly called the all 'round Save-All. It functions with greatest efficiency and with least operating and maintenance cost.

For these reasons—and to keep streams clean—every mill should use the Oliver United Save-All.

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Federal Reserve Bank Building
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JOHANNESBURG
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Two G-E 150-hp. synchronous motors driving beaters, West Jersey Paper Company, Camden, N. J.

Synchronous motors are admirably adapted to driving—

Grinders
Jordans
Chippers
Vacuum Pumps
Rotary Screens

and, of course, motor-generator sets.

G-E Synchronous Motors on Beaters

GENERAL ELECTRIC has developed synchronous motors with high starting and pull-in torques for just such heavy-duty starting service as that of beaters driven either in groups, pairs, or singly.

You may specify synchronous motors for your beaters and enjoy the proved economies that result — economies made possible through power-factor improvement — economies reflected in decreased power bills, and through higher full-load efficiencies than can be obtained with other types of motors.

Remember, too, when you specify synchronous-motor drive for your beaters, that the reputation of G-E synchronous motors is built on dependability established by exact, specialized design and manufacture.

Put your motor problem up to the paper-mill specialist in the nearest G-E office. He will gladly consider it with you.

Motorized Power
—fitted to every need

107-65

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

muddy mississippi

made into perfect boiler feed

General view of feed water treating equipmen used by Louisiana Steam Products, Inc., Baton Rouge, La.

WHEN Lindbergh flies the ocean or Byrd soars over the Poles—it catches the public's fancy. But a pioneer engineering job—though it may call forth courage and persevering effort on the part of a thousand men and involve many millions of dollars—is buried on an inside page of the daily newspaper.

A case in point is the plant recently completed by Stone & Webster Engineering Corporation for Louisiana Steam Products, Inc., at Baton Rouge; a plant that boasts a number of unusual features. Steam pressure is more than 600 lbs. per sq. in. Three 1400 h. p. boilers are used, at 800 per cent of rating. More than 1,000,000 lbs. of water are evaporated per hour, and make-up is 80 per cent, as turbine exhaust—amounting to 6 billion pounds a year—is sold to nearby industrial users.

How to adapt the Father of Waters, known all over the world for its muddiness, to the exacting work of boiler feed, loomed up as a real difficulty. ***Ordinary*** methods of treatment were barred. After extensive investigation Stone & Webster Engineers decided to use intermittent lime pretreatment followed by zeolite. The job of furnishing the entire plant equipment for purifying the water for boiler feed was turned over to Permutit Engineers.

From river to boilers the waters runs an interesting course. First it is pumped into two tanks 34 ft. in diameter and 50 ft. high, in which some of the mud settle. From there the water goes to six settling tanks whose total capacity is 900,000 gal.; lime and other chemicals are added at this point. Then the water is conveyed to eight filters; next it is treated with sulphuric acid; next softened by Permutit Zeolite; from where it goes to the large soft water storage tank 250 ft. above ground and finally to the heater and boilers. The latest type of control apparatus simplifies operation. The care exercised by Stone & Webster Engineers in their choice of equipment is no secret in the engineering profession, and hence the use of Permutit Water Treating Equipment for this unusual steam plant is especially significant.

Whether your plant is as large as the one just described, or comparatively small, it will pay you to learn more about soft water for boiler feed. Our booklet, "Reducing Fuel and Boiler Plant Operating Costs," tells the story—write today for a free copy.

THE PERMUTIT COMPANY
440 Fourth Avenue, New York, N. Y.

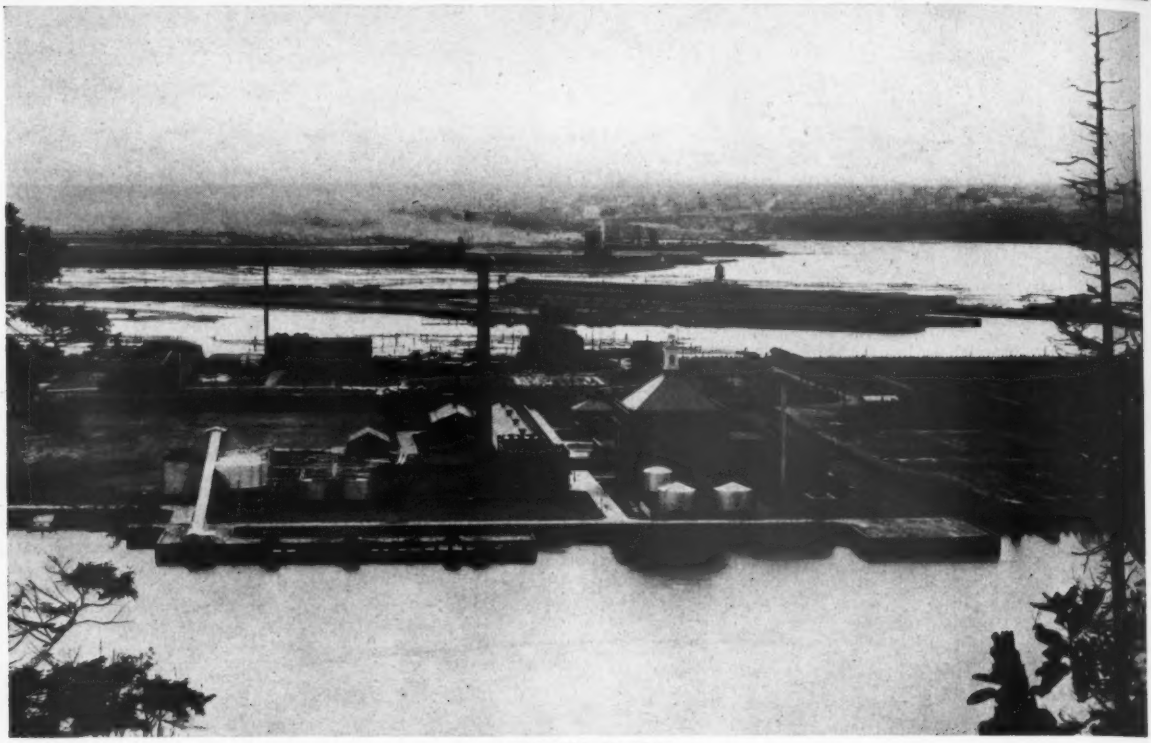
Manufacturers of all types of Water Softeners—Zeolite, Hot and Cold Lime Soda, Lime-Barium. Sand Filters. Iron, Oil and Manganese Removing Filters. Continuous Boiler Blow-off Equipment. Ranarex CO_2 Indicators and Recorders. Other Power Plant and Water Treating Specialties.

Permutit

Water Treating Equipment

SAN FRANCISCO, 1012 BALBOA BUILDING. — LOS ANGELES, 909 WRIGHT CALLENDAR BUILDING

LIQUID CHLORINE



TACOMA PLANT
HOOKER ELECTROCHEMICAL CO.

READY TO SERVE YOU

THIS HOOKER PLANT, CONVENIENTLY LOCATED AT TACOMA, WASH., IS READY TO MEET YOUR NEEDS FOR LIQUID CHLORINE PROPMTLY AND EFFICIENTLY. THE LARGE TECHNICAL STAFF OF THE HOOKER ELECTROCHEMICAL COMPANY ARE SPECIALISTS IN THE USES OF CHLORINE AND ARE AVAILABLE TO ASSIST AND ADVISE IN ANY TECHNICAL OR OPERATING PROBLEMS. COMPLETE INFORMATION ON CHEMICAL TESTS FOR CHLORINE AND RECOMMENDATIONS ON EQUIPMENT FOR SPECIFIC USES IS AVAILABLE ON REQUEST.

HOOKER MANUFACTURING AND RESEARCH FACILITIES ARE AT YOUR SERVICE. ALL INQUIRIES WILL RECEIVE PROMPT ATTENTION AND DETAILED CONSIDERATION.

HOOKER ELECTROCHEMICAL COMPANY

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SALES OFFICE:
TACOMA, WASHINGTON

HOOKER HE CO ELECTROCHEMICAL

EASTERN
PLANT—NIAGARA FALLS, N. Y.
SALES OFFICE:
60 EAST 42ND ST., NEW YORK

HOOKER CHEMICALS

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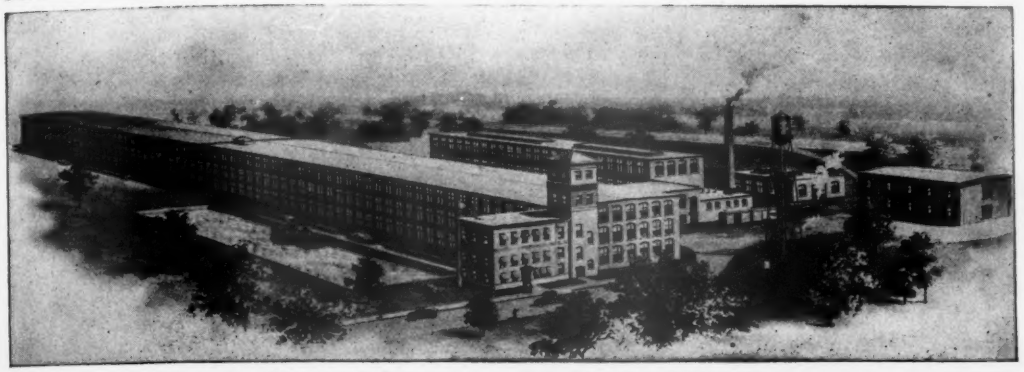

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TISSUE FELTS *for*

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and
Specialties

ALBANY FELTS

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In the manufacture of any kind of tissue papers, the felts are of vital importance to successful operation—and dozens of tissue mills, both in this country and abroad, have found that the use of Albany Felts has added immeasurably to the efficiency of their machines.

The extensive experience of the Albany Felt Company in all grades of tissues enables them to design and produce felts of the highest type—not only for long life and rapid water-removal but for extra fine finish as well.

We're interested in having you know more about Albany Tissue Felts—Pick-ups, Wet Felts, Woolen Dryer Felts—and their performance on all types of machines—Harpers, Cylinders, Fourdriniers and Yankees.

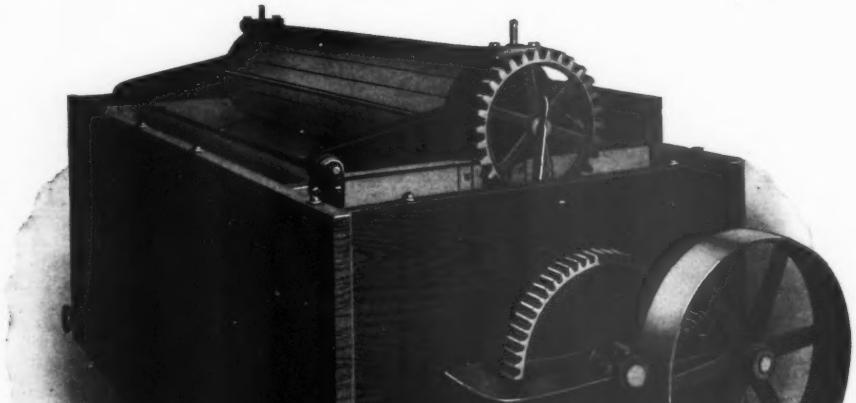
Our representative will be glad to tell you of our accomplishments and through him the world-wide experience of our entire organization is at your service.

ALBANY FELT COMPANY

ALBANY, NEW YORK

"IMPCO"

DECKER *or* THICKENER



Thickens sulphite pulp to 10%. Built in any size required. Extra heavy cylinder mould. Gear driven couch roll which increases capacity and eliminates wear on cylinder faces. Double water compartments with gate control.

Improved Paper Machinery Corporation

NASHUA, N. H., U. S. A.

In Canada: SHERBROOKE MACHINERIES Limited

SHERBROOKE, QUEBEC

CHLORAMINES FOR SLIME CONTROL

FOR SOME MONTHS Great Western Laboratories have been doing experimental work on the use of chloramines for control of slime in pulp mills. The widespread difficulties caused by slime and slime bacteria make its control and elimination a vital consideration.

Slime bacteria usually enter the mill in the raw water supply, or in a stock supply where they may be present in the stock itself. The result is that they collect and grow everywhere: in filters, making frequent backwash necessary; in head boxes, where the slime breaks away to form spots on the paper and frequently cause breaks in the machine; on the wire causing blinding and frequently carrying through to the drier train. Slime particles prevent close formation among the fibers, the bacteria attack and decompose cellulose — and the results are weak stock, frequently with material shrinkage, and pinholes where the slime particles are broken down by heat in the drier train.

Chloramines are highly effective in killing slime bacteria, preventing growth, and controlling odors. It has always been the aim of Great Western Electro-Chemical Company to keep pace with the Pulp and Paper Industry by meeting the Industry's problems with products and methods for their solution, and the presentation of Chloramines for slime control is simply another step in this policy. We shall be glad to answer inquiries with detailed information, and to assist in initial experiments and final installations.

GREAT WESTERN ELECTRO-CHEMICAL COMPANY

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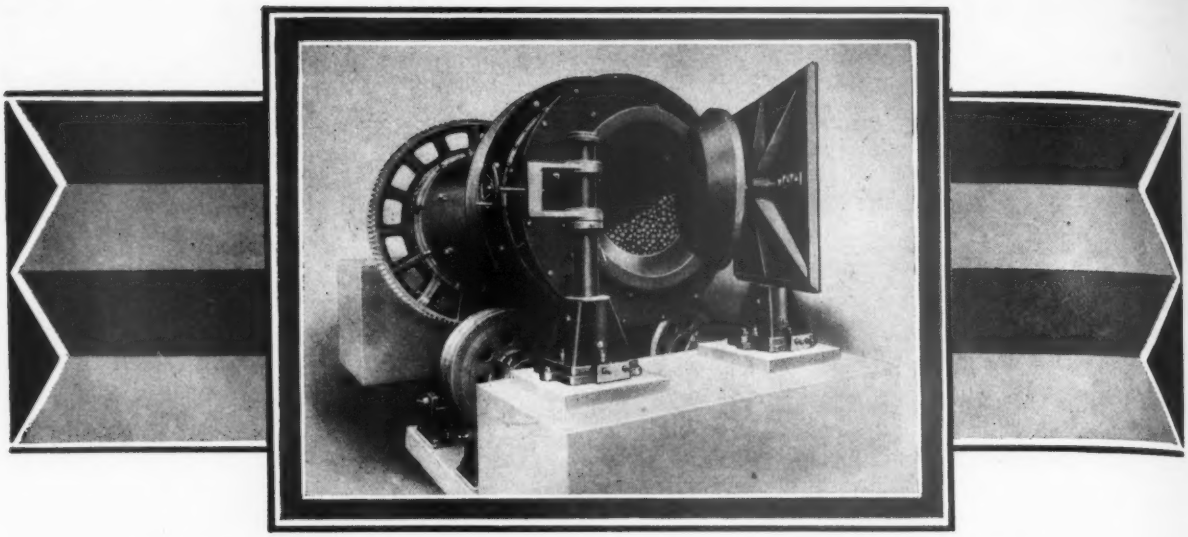


Use Marcy Rod Mills *for Beating Paper Pulp*

MARCY ROD MILLS are showing a saving in power consumption running from 30% to 60% over former methods of beating paper pulp. This saving in power alone is greatly reducing production costs per ton and this saving will quickly pay for the installation of a Marcy Rod Mill.

A better paper stock is being produced by Marcy Rod Mills because of the true beating action of the rods insuring longer fibers and no cutting. Knots and chaffy material as well as ground wood screenings and rag waste are being worked up into valuable paper stock. Shives, shiners and fiber bundles are being eliminated with cleaner stock as the result. Better benders are also produced because of the longer fibers resulting from this method of beating. Absolute control is afforded the paper maker by the Marcy Rod Mill. Through the large open door he can always observe exactly what is taking place within the mill. The formation of a pool at the bottom of the rod pile is prevented and uniform results can always be obtained by this constant control. The interior is readily accessible for the replacement of worn rods and lining. The low pulp line is assured by the open end discharge which prevents the by-passing of stock and insures all of the pulp receiving its full portion of rod beating.

There are rod mills and rod mills but we believe that the Marcy Rod Mill represents in every case the greatest value for the expenditure involved. They are so priced that their performance will more than justify the investment. You might find it profitable to study their application to your beating problem. *Our engineers will gladly assist.*

The MINE and SMELTER SUPPLY COMPANY

PAPER MILL DIVISION

DENVER, COLORADO
1422-17th Street

NEW YORK CITY
225 Broadway

Manufactured for us in Canada by
WILLIAM HAMILTON, LIMITED
PETERBOROUGH, ONTARIO

MASSCO

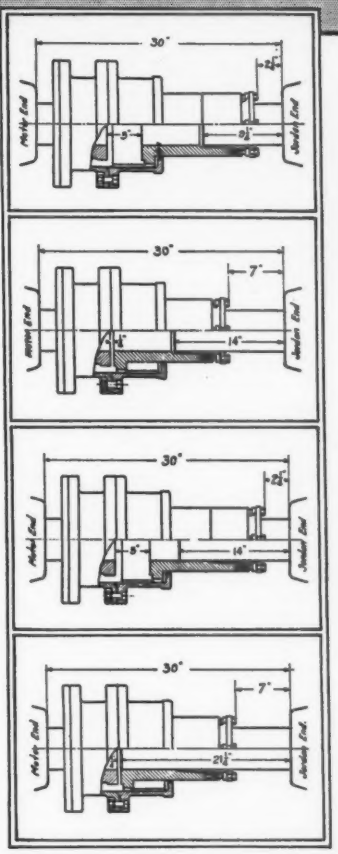
The How and Why of FAST'S Jordan Coupling

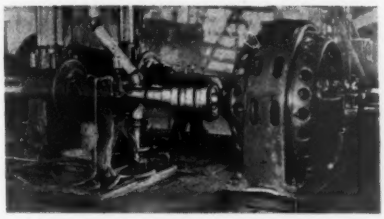
BY use of Fast's principle of Mechanical Flexibility, not only are shutdowns for coupling repairs eliminated, but adjusting the Jordan plug is simple, providing a full 12-inch adjustment.

To start with, it has no flexible lacings, bushings, springs or other flexible materials. Instead a new mechanical principle is used which eliminates the necessity for ever shutting down for coupling repairs.

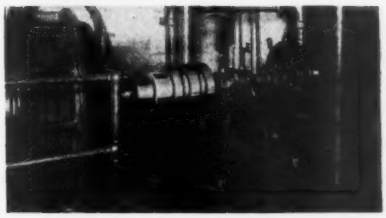
Note the drawings of a Fast's Coupling on a 5-inch Jordan shaft. Diagram 1 shows the position when the Jordan lining is new, ready for a 4¾-inch adjustment of the plug, to position shown in diagram 2.

Now, by simply releasing four draw bolts the entire Jordan end of the coupling is set up toward the Jordan, and you are ready for another 4¾-inch travel, diagram 3. Then again this can be done, until the Jordan plug has been adjusted through full 12 inches, see diagram 4.

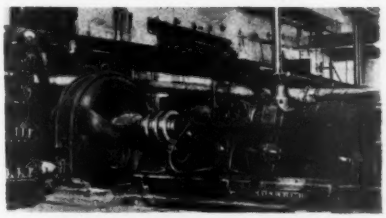




Fast's Telescopic Coupling connecting Motor and Jordan engine at Westfield River Paper Co., Inc., Russell, Mass.



Fast's Telescopic Coupling connecting Motor and Jordan engine at Thilmany Pulp & Paper Co., Kaukauna, Wis.



Fast's Telescopic Coupling connecting Motor and Jordan engine at Champion Coated Paper Company, Hamilton, Ohio.

FAST'S *Self-Aligning* COUPLINGS

NO FLEXIBLE MATERIALS

MAIL THE COUPON FOR FREE PAMPHLET

Do not fail to send for the free pamphlet, "Solving Coupling Problems in Paper Mills". It explains this jordan coupling in full, as well as other Fast's Couplings for every coupling problem of the pulp and paper industry.

THE BARTLETT HAYWARD CO.
228 Scott Street » « Baltimore, Md.

Please send me the free pamphlet on "Solving Coupling Problems in Paper Mills".

Name.....

Name of Mill.....

Address.....

WILLIAMS STANDARD PAPER MOISTURE TESTER

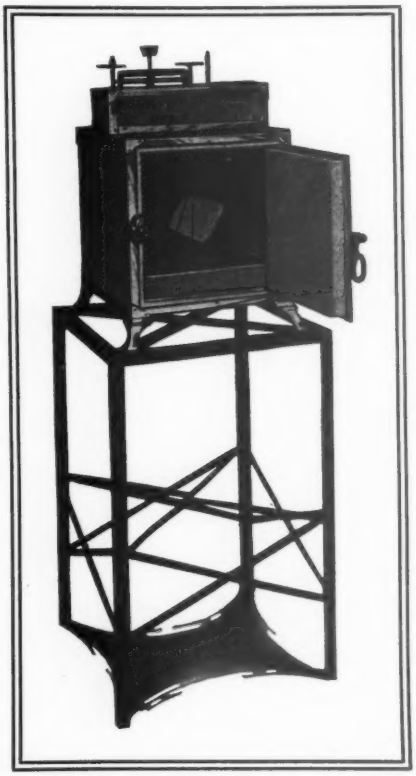
An Accurate Moisture Test of Your Paper in Ten Minutes

One Paper Company Has Bought 21 for Their Various Mills

Moisture tests can be made in your Machine Room by your Machine Tenders.

No calculations required. Accurate to .1 of 1%.

Tests all kinds of paper from tissue to board.



Hot samples weighed without removal from oven. No chance for moisture absorption during weighing.

Double-walled electric drying oven, with thermostat control.

Accurate scales with non-rusting agate bearings and beam graduated to read percent moisture directly.

Over-dried Paper Costs You More Dollars Per Ton and Dissatisfied Customers

WILLIAMS APPARATUS COMPANY

WATERTOWN, N. Y.

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Is Competition Changing

PULP SALES METHODS?

A major problem for Pacific Coast Mills

The major problem facing the Pacific Coast pulp producers today is that of merchandising their goods on quality factors and establishing the commodity's merits in a market not altogether unprejudiced.

Close attention to production problems in the pioneer years of the Western industry has produced a high quality pulp, but possessed of different characteristics than found in pulps from other regions.

There is a definite trend toward employing the practical man to assist the sales department in selling Pacific Coast pulp by explaining its merits from the technical viewpoint.

FOR 1931 it looks as tho the pulp superintendents of the Western mills can press their tail feathers a bit, wear out the heels of their shoes on the office desk and catch up with some of that reading. The fellow who's going to be busy is the one who handles the sales. Of course the super is going to have a bit to do, because the management is going to be squeezing him to trim costs and boost the quality another notch or two—funny how fussy the paper mills get about quality when there's lots of pulp on the market—but, generally, the production folks of the Pacific Coast mills have fairly well got their problem licked. The sales department, on the other hand . . .

There IS a problem. And it certainly looks as tho there's chance to work up a genuine perspiration before the broom can be stood up in the corner. As a matter of fact, Pacific Coast pulp doesn't seem ever to have been really sold in the real constructive sense of that word. Only a furrow or two in the virgin field, so far.

When Pacific Coast pulp first went to market it was just so much more pulp, ton for ton. And, as long as there was the enormous slack in prices there was lots of argument in cost alone for the sales department to use without getting down to the finer points of selling on quality. Maybe it's a fair criticism to say that the Pacific Coast producers have paid too much attention to manufacturing problems, and not enough to the sales problems.

Since the inception of the West Coast pulp industry half a dozen years ago, believe us, there have been plenty of manufacturing problems to lick. Perhaps too much attention was devoted in these years to giving the paper mill a Pacific Coast pulp which attempted to approach the characteristics of the Eastern domestic, Canadian or Scandinavian pulp which it had long been using.

That is perhaps excusable. Our first automobiles looked an awful lot like the horse and surrey—minus the horse—of a quarter century ago, but the present day cause of our parking problems certainly has evoluted some considerable distance since those early days when gasoline first began contesting oats as a primary source of motive power.

It is possible to go even further back for analogies. Take the ox. The lumbering bovine has been a beast of burden for many a century. He did the job in his day. When, however, the horse was more universally adopted as the efficient unit of living motive power some changes had to be effected in the minds of the old time bull punchers. Whereas the clumsy oaken yoke was all right on the neck of an ox, it wasn't worth a whoop on a horse's neck. The hitching-up process had to be changed. But, given suitable harness, properly adapted to his physique, the horse proved himself to be a very superior draft animal.

And now we can ring in the analogy about Pacific Coast pulp. The Western mills have been battling a prejudice against their product largely because of the human inertia to change methods. Pacific Coast pulp has characteristics differing considerably from the pulps of the older producing regions which have for many years drawn upon the conifers of Northern Europe and

Pulp made from Western Hemlock is now being used in some of the best paper mills in the world. Nevertheless, Western hemlock pulp has labored under a prejudice because the tree species from which it is derived has a name similar to that of an Eastern tree species which has long stood in disrepute as first class pulpwood.

It may be that Pacific Coast pulp producers have been paying too much attention to production problems and not enough to merchandising.

the sunrise side of the North American continent. Hitched up with the yoke of the ox, Pacific Coast pulp has failed to perform in many a paper mill. The fault is not that of the pulp, but of the harness.

Certainly, until prejudice is removed and Pacific Coast pulp is accepted on a parity with the pulps of Eastern Canada and the Scandinavian countries, the Western producer has little other than price to offer as a sales argument. And even that argument will fail to win permanent customers unless something is done about explaining the right way to use the pulp.

When Pacific Coast pulp first appeared on the Eastern market it was sufficient to laugh and say, "Well, maybe you do make something you call pulp out of that Western wood, but nobody can make paper out of it." Preposterous? Not at all. Such statements have been made by none other than presidents and general managers of Eastern paper mills.

Again, Eastern mills having whittled their spruce and kindred pulpwood supplies down to the bone, they attempted to use hemlock. But the results were generally disappointing. Hemlock got a black eye. It didn't have the stuff. Then, when Pacific Coast pulp came breezing into the market, announcing in a carefree way that it was sired by Western Hemlock, Old Man Prejudice whispered in the ear of the once-bitten Eastern paper maker and said, "Mark my word, this here Hemlock ain't no good." The point Old Man Prejudice overlooked is that Eastern and Western hemlock do not come from the same family at all.

Now and then an executive sales argument got a hearing before some more adventuresome Eastern paper mill magnate and a sale was made. But that didn't clinch the business by a whole lot. When that pulp got to the paper mill after rolling in a couple thousand miles from a Pacific Coast mill the paper maker, the real practical man in the overalls out there in the mill, opened up a few bales with the enthusiasm of the small boy about to take his dose of castor oil in return for the weekly nickel.

Well, the pulp was dumped in. The mill had been turning out good paper and had derived a formula by a combination of rule of thumb and higher mathematics. In fact, the paper mill superintendent had got it down so fine that he could set his beaters and his jordans blindfolded and give this valve two and a quarter turns and just crack this other one. There wasn't perhaps any particular science about it but, like the fellow who had once started his stalled motorboat engine by wrapping the life preserver about it and putting the crescent wrench behind the magneto, and who ever after clung to that ridiculous formula, the super knew that if he did certain things with that Elephant brand pulp he had been using for these many years he would quite likely get certain results in his paper. .

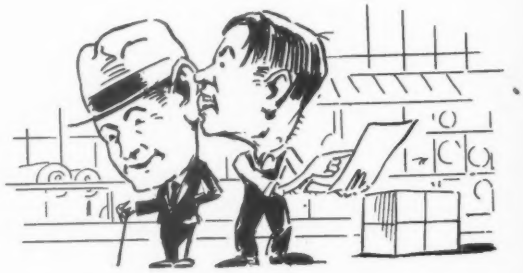
That routine set of operations may have been just dandy for the Elephant brand pulp made from a slow growing northern spruce, but the Western Hemlock fibres didn't pull in that same harness at all. So, having yanked all the hairs out of his head, the super dashed in to the general manager and had a good cry. The pulp mill got a telegram which said some rough things and intimated a lot of others. In a case like that the Pacific Coast pulp got all the blame, tho not entitled. Preconceived ideas must be thrown away in seeking the true values of Western pulp. This calls for open-mindedness, but it's entirely a fair request.

To dismiss Pacific Coast pulp as without merit at this late date is to admit atrophy of the brain cells. Pacific Coast pulp has demonstrated its value in five years of knocking on the doors of the world market. It does seem rather puerile, doesn't it, to argue that the 300,000 tons of sulphite annually moving out of Pacific Coast mills are nowhere giving satisfaction?

If you want to get the low-down on the differences between Pacific Coast pulp and pulp from other regions, get into communication with a pulp mill superintendent who has come West, a paper maker who has come West, or an Eastern paper maker who has discovered the characteristics of Western pulp through actual use and learned how to make it give results on the paper machine.

There are plenty of men in these three classes. The pulp makers will tell you that they had to throw away lots of their former experience and re-learn to a large degree the behavior of wood in cooking. But, being open-minded, they have licked the problem. The paper makers will testify for the defense in similar vein. You have to put the pulp on the machine differently but, learning how, the results are there.

Investigation into a number of specific cases leads to the belief that Pacific Coast pulp was a stepchild in every paper mill upon first introduction.



The paper mill superintendent who has learned the behaviourism of Pacific Coast pulp can give you the low down on getting real results.

Let us presume that something drastic happened to the pulp supply over nite. Suddenly no more pulp is available from the usual sources. The demand is unchanged. This is no wild theory. The same things happened in scores of instances at the outbreak of the World War. We learned then, by force of necessity, the best of all teachers, to utilize other sources of sup-

ply that had until then been considered entirely useless. Also we learned, in many cases, that a far superior product had long been hidden under the bushel right at hand.

The analogy is exactly comparable for Pacific Coast pulp. There are a few cases at least where a stubborn executive has foreseen the potential greatness and importance of the Pacific Coast supply of pulp and has forced his operating men to discover how to use it. In such cases it took a bit of blood with the sweat, but the final results were gratifying, to say nothing of the mental jogging loose of cobwebs in the operating minds thru being forced to take a little mental exercise.

But strong arm methods tend to create ill will in the plant. Really, there is no necessity for such methods. The Pacific Coast producers ought to take upon themselves the responsibility of showing the Eastern paper makers how to hitch up the West Coast fibres without getting the willies in trying. It is up to the Pacific Coast pulp mills to send a book of answers with any problem they hand to the Eastern paper mill man in a bale of pulp.

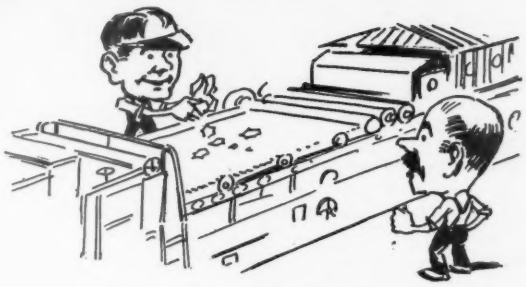
The answer seems to lie in establishing cooperation between the operating departments of pulp mill and paper mill. This liaison officer will have to be an operating man first of all, one who knows the pulp characteristics and knows which handles to turn when he gets into the paper mill. He's got to be able to talk the patter or he'll never get chummy with the paper mill super. He's got to remember that he probably comes in under a cloud of prejudice anyway.

In addition to operating skill the liaison man must have tact that fits like a set of tailor-mades. He must be able to radiate the feeling to the operating personnel of the paper mill that he is there to help and not to show them up for past failures. Unless he makes the right approach the liaison man's work is going for naught, because it will be comparatively easy for the paper mill super to freeze up and put lots of tacks in the path. Even if Mr. Liaison does show up an obstreperous super the pulp mill hasn't necessarily been done any good in the way of winning a permanent customer, because friend super under the circumstances isn't going

Pacific Coast pulp mills have been battling a prejudice against their product largely because human inertia resists any change of methods.

to be any walking advertisement for a brand of pulp if he doesn't like the way the liaison officer wears his hat.

If we admit that the Coast pulp mills have a definite problem in selling their pulp as a distinct commodity we must then admit also that the practical man must be employed somewhere in the sales department. Pulp that doesn't react the same as older and better known pulps



Since Pacific Coast pulp has its own characteristics it is up to the Western men to show the paper mills how to put this pulp on the paper machine.

can not be sold entirely across the dinner table. The consuming mill must be entered and the actual users of the pulp, the paper mill operating personnel, must be initiated patiently and tactfully into the proper use of the commodity. Obviously, a liaison man needs to be most carefully selected. His job will be most important. The careful execution of his duties can do more to win permanent customers for the pulp mill than all the after dinner speeches laid end to end.

This idea of the practical operating man usurping in part or in whole the function of the executive type sales personnel is not entirely new. It is now in the process of evolution. When a paper mill adjoins a pulp mill this liaison is effected by the equivalent of a series of shouts between the two departments. But, when the pulp source moves two or three thousand miles away even the most robust lungs will be strained in any attempt to cling to old methods. Different raw material, to boot, adds to the problem.

But the need, rather than being eliminated, is emphasized. That the liaison idea is already taking shape is seen in intermittent practice indulged in by a number of Pacific Coast mills in sending the pulp superintendent or some other practical man back to the paper mill customers to discover their problems and to aid in solving them. While these men have not actually carried along order pad and pencil they have nevertheless been doing sales work of the first magnitude. The next step will be to recognize the real significance of their function and to clothe these business builders with suitable title and authority.

If a practical man is selected to establish liaison between pulp mill and paper mill he must be chosen with care for his technical ability, personality, and tact. The right kind of man can do much to build sales for his company. The wrong man can do much to lose sales and prestige for the pulp and its maker.

Dexter President Sees Need For Adjustment

"In your article entitled 'The Pulp Market Outlook for 1931', published in the January issue of PACIFIC PULP AND PAPER INDUSTRY, the situation has been, not only succintly stated, but has been logically estimated," writes James E. Campbell, president and treasurer of the Dexter Sulphite Pulp & Paper Company, Dexter, N. Y.

"As a very fundamental and easily understood statement, it seems to me impossible to carry a quart in a pint bottle. When an industry through a reckless disregard of the most fundamental economic laws will build its production into a topheavy buyers' market condition, then that industry must and will suffer the inevitable penalty.

"The paper and pulp industry is basic and represents one of the great key industries of this nation and until a proper relationship is reached between the productive capacity of our industry and the consuming demand, no hope for immediate adjustment of the present situation can be safely indulged in.

"It has seemed to me for some time that a five-day week of operation from Monday until Saturday with Saturday given up for general repairs and maintenance and Sunday as a day of rest, with a full pay envelope, is being slowly but surely forced upon all industries. An early adjustment of this industry along these lines would change the picture very quickly.

"It is axiomatic that supply and demand must be in proper relationhsip in order to carry on. In our industry it seems to be a question of how much missionary work is necessary in order that the industry will make a right-hand turn instead of a left-hand turn at the next crossroads."

See Bottom In Pulp Market

"We have made up our minds that the bottom has ben reached in the pulp market and we are buying over this year and well into next," states Grellet Collins, president of Dill & Collins Co., fine paper makers of Philadelphia.

"When pulp gets below cost, as it is at present, there is not much danger in supplying your wants, and we believe in doing this at the present time."

Manufacturers Plan Del Monte Program

Following a meeting held at the Hotel Benson, Portland, on January 27, the recently organized Pacific Coast Association of Pulp and Paper Manufacturers outlined a program for discussion when the association will again convene in May at Del Monte, California, concurrently with the annual meeting of the Pacific States Paper Trade Association.

A number of subjects of pertinent interest to the Coast manufacturers were brought up at the Portland meeting, but these were narrowed down to four main topics, around which the Del Monte discussion will revolve.

Growing out of the experience of the past year and one-half, and with a desire to minimize violent fluctuations in employment which so often work hardships on the personnel, the association will dig into the problem of "Methods of Handling Personnel in Times of Slow Business." Because manufacturing of all kinds has been unusually slack in past months, inflicting upon managements acute problems, it is expected that this discussion will be unusually fruitful.

A second subject proposed is that of "Stream Pollution". Within recent times a number of cases falling under this classification have been forced upon a number of individual organizations. The association has in mind an investigation of the magnitude of the problem and ways and means for cooperative attack to the end that justice will be done and unreasonable demands be eliminated.

The tax question has been booked for Del Monte consideration. Here the association proposes to coordinate a mass of scattered information so that the problems may be studied as a whole. Informal talk on this question developed the fact that methods of assessment and amounts of levies show wide variation under the many different political jurisdictions, and that in some instances thsee charges are excessive to the extent of seriously handicapping the development of the industry.

Matters of traffic, it has also been decided, can be handled expeditiously thru cooperative action. Altho there is at present an existing Traffic Association on the Pacific Coast, it is believed that coordination of this activity as a function of the larger association would be feasible. It is a subject in which united effort has demonstrated its possibilities in results and it touches every single operating unit. More will be said at Del Monte.

The subjects outlined above are those which are practically assured of being on the Del Monte program. The general plan is to present papers on the subject and then to open the topics for round table talk.

It was agreed at the Portland meeting that the members should inform themselves on the matter of imports from Soviet Russia and to be prepared to treat the problem if it comes up. Other subjects which may arise include organized safety work, tariff, and imports.

George W. Houk, executive vice president of the Hawley Pulp & Paper Company, and president of the manufacturers association, presided at the Portland meeting. J. L. Murray, director of sales promotion, Everett Pulp & Paper Company, acted as secretary. Elmer Herb, who was elected secretary at the organization meeting, has become ineligible for the position by reason of his having been transferred to Canada, where he is now managing the Westminster Paper Mills at New Westminster, B. C. The association will let the matter of choosing a new secretary ride over to the Del Monte meeting in May.

It has been the custom of the paper jobbers, the distributing brotherhood of the industry, to meet at Del Monte for many years. At the last several meetings the manufacturers have been more and more in attendance to capitalize on the opportunity to renew their acquaintance with the men who sell the paper. Out of this attendance developed the idea at the 1930 meeting of forming an association for the manufacturers. A committee was formed at that time and from it has developed the present organization.

The All-Water Route to Market

In announcing a new thru rate of 55c per 100 pounds from Pacific Coast points to Cincinnati, Ohio, via New Orleans and the Mississippi Valley Barge Line, the Luckenbach Gulf Steamship Company opens up new possibilities for moving the growing volume of Pacific Coast pulp tonnage to the important Midwest market. A few experimental shipments have been made by the Canal-River route heretofore, but lack of low thru rates has handicapped the movement. On the new rate the minimum required is 125 net tons per steamer.

The Anti-dumping Act

Present circumstances in the pulp market suggest the need of oiling up this law

BACK in 1921—which some may recall had parallel with 1930 in its general revearsal of business prosperity—the 67th United States Congress enacted an emergency tariff bill known as the "Antidumping Act, 1921." The act was intended to "meet present emergencies" and "to prevent dumping of foreign merchandise on the markets of the United States" among other things.

It is quite probable that the legislative body in the economic distress of 1921 did not specifically have in mind protecting American industry from woodpulp dumping. Certainly they did not have in mind protecting any developing pulp industry on the Pacific Coast. For good and sufficient reasons. There was no pulp industry on the Pacific Coast in 1921 supplying pulp to a national domestic—not to be confused with local—market. The Coast mills, now supplying the 350,000 tons annually moving into the Eastern United States market have all been built within the past decade.

Violations

However, the Antidumping Act still stands on the statute books, albeit slightly in need of dusting off. In short, it is difficult to believe that in accepting the distressingly low prices on pulp now current that the foreign producers, particularly those of Northern Europe, are not flagrantly violating the Antidumping Act, and that many United States interests are not only in harmony with these violations, but are aiding and abetting them.

The Act provides that "whenever the Secretary of the Treasury . . . finds an industry in the United States is being or is likely to be injured, or is prevented from being established, by reason of . . . foreign merchandise . . . being sold . . . at less than its fair value, then he shall make such finding public . . ."

In the absence of such a finding, the Act provides that when the appraiser has reason to believe or suspect from invoice data or other information presented to him that the imported goods are being dumped on the United States market under the definition of the Act he shall withhold his appraisement and notify the Secretary.

Non-enforcement

With particular respect to woodpulp, the Antidumping Act has been ineffectual for a number of reasons. First, there has been some misbelief that the Act does not apply because pulp is a free import. This supposition is wholly in error and, where pulp is being sold on dumping terms, the exporter is liable for the difference between the dumping and the "fair" price. Second, the paper mills which rely on foreign pulp have been able to profit thru non-enforcement. Third, there has not been a strong domestic source of pulp supply until the development of the new Pacific Coast tonnage within the past six years, which was in a position to apply for protection under the clause aiming to foster the establishment of new domestic industries. Fourth, the Treasury Department has been in need of a primer on "How to Make a Finding and Really Find Something."

It is sufficient to dismiss in a sentence the fact that the department made an investigation within recent months, but found nothing. That action is now history. Meanwhile, however, the world markets have gone into turmoil, prices have been bent all out of shape and pulp is being sold today in the United States market at delivered prices that are generally admitted to bring no profit, if not actual loss, to the producers.

Duty to Investigate

Market conditions for woodpulp today in no sense parallel conditions prevailing at the time the investigation was made. The Antidumping Act imposes upon the Secretary of Treasury not the choice, but the duty, of investigating dumping. In the terms of the Act there is an abundance of data on which to "suspect" dumping and inaugurate a thoro investigation. A word or two by way of hinting what to look for might be in order.

It is obvious from the start that those paper mills which are relying upon outside pulp mills for their supplies are not going to be enthusiastic about a dumping investigation. It is to their advantage to have more than one source of supply so that the Pacific Coast producers may be pitted against the Scandinavians, or what have you.

Where Not to Look

The object, of course, is to buy pulp at the lowest possible price, regardless of whether or not the pulp manufacturer makes any money. This method, however, cannot be said to involve any particular length of vision beyond the nasal organ. The truth is that paper manufacturers in the United States—with the exception of news print producers—are fenced in by a practically airtight tariff. The United States mills do not have to compete in the great American paper market against any foreign vendors. They compete only with themselves. Cheap pulp is not, therefore, an essential to success for the paper mill which must buy outside. Rather, cheap pulp is one curse of the industry and has done much to help drive down paper prices and create the price-wrecking evils now being witnessed. The ultimate consumer is not terribly interested in whittling the last cent off his paper purchases. He must have the commodity. Statistics of boom years that have gone before will show that more paper has been sold at high prices than low.

But, to return to the mutton. It is sufficient to remind the Treasury Department that if they really want to "find" something they should not put all their trust in those who find strict enforcement of the Antidumping Act distasteful.

The Act defines dumping prices as those which are less than "going" purchase prices, exporters' sales prices, foreign (home) market value, or cost of production. The net of all four definitions is that goods are being dumped when the net return to the producer is less than the total cost of manufacturing, transporting to market and selling, plus a normal 8% profit. Those who would go deeper into this phase of "what constitutes a dumping price" can find full explanation in Sections 203, 204, 205 and 206 of the Act. It is not intended here to inform the Treasury Department of the laws which it is charged with administering, but exporters and importers of low cost pulp might find a review of these provisions refreshing.

The Act is specific in requiring that the price of the commodity be construed as the final price received by the exporter after he has deducted costs of manufacturing and preparing (baling, boxing, etc.) his commodity for shipment, of transporting it to destination, commisisons, insurance, expenses incidental to selling. There is reason to believe that in many foreign pulp sales all of these required deductions have not been made. While, of course, all of the expenses of the foreign producer cannot be known with accuracy, reliable estimates of certain major items are available even to the ordinary observer. These, when lumped, give an index beneath which it is known with certainty the foreign producer cannot go and stay out of the red.

An Example

To get down to cases: In late 1929 an American agent for a foreign pulp producer secured a customer on contract for monthly deliveries thru 1931. The price was $55 per ton. Deliveries went along early in 1930 at this price. With the market cracking the exporter sold the same grade of pulp to other customers at $42. These prices were ex-dock New York. The first contract customer got wind eventually of these concessions to competitors of his and demanded a showdown. Whereupon, with the approval of the exporter, a new contract was made for 1931 to hold the customer, but a rebate was applied.

In other words, the 1931 contract was married to the 1930 agreement, and the concession was offered in an underhanded way by granting large credits on old deliveries so that the contract on the surface would tell nothing of the actual facts. Such cases are not isolated. It is obvious that under such a procedure the price declarations made at port of entry are purely fictitious and that the adjustments in price taking place after the arrival of the cargo are not ordinarily visible to the customs officials unless they interest themselves in the bookkeeping of the foreign producer and his agents.

Demand the Facts

Due to the water distance between the European mills and the American ports, and the closed shipping periods during the Baltic winter, pulp from abroad comes in cargo lots on consignment to agents. For customs purposes the pulp is declared in upon arrival and commitment to warehouse. It is obvious, however, particularly in periods of price pressure, that the entry prices can have no real relation to the actual monetary return to the producer. And it is on the latter that the Antidumping Act applies.

With bleached sulphite selilng at $53 to $55, unbleached at about $40 and kraft pulp at even less than $30, all prices ex-dock Atlantic ports, it is hard to believe that after deducting cost of manufacture, freight cost from Europe, wharfage and storage, railway freight backhaul, penalties, and 6% commission for brokerage, that the European producer can enter any figures in his accounts in black ink.

Difficulty of proof of dumping can be expected to be encountered. The Secretary of Treasury does have sufficient authority, however, to demand the facts. It may be that the most effective method of stopping pulp dumping would be simply to insist that declarations specify the customer to whom the pulp goes. If for no customer, then the pulp is considered on consignment. When the consignments move out, then the agents of the foreign producer would furnish the Treasury Department with copies of sales orders and actual prices, with net return to the producer. If the fact merely became known that the Department were initiating a pulp dumping investigation in a manner really calculated to "find" something, the desired results would largely be achieved thru the increased caution of all who tread on thin ice.

Amalgamations in German Pulp and Paper Industry

Critical coonditions now affecting the German paper and pulp industry have hastened two large company mergers as well as the formation of a pulp syndicate, according to Trade Commissioner William T. Daugherty, Berlin. The latter was recently founded to supplant the previous looser cartel, and to allocate production, fix prices, and to sell for its members. Following the Feldmuehle-Koholyt merger, announcement is made that A. G. fuer Zellstoff-und Papierfabrikation in Aschaffenburg, capitalized at 23,000,000 marks ($5,474,000) and second largest pulp mill concern in Germany is to merge with Zellulosefabrik Hoesch and Company, of Pirna, effective January 31, 1931.

The Aschaffenburg company is controlled by Chemische Werke vorm. Albert and the Albert family, which are presumably transferring shares to the Hoesch company in connection with the merger. Aschaffenburg (including its Memel plant) produces about 250,000 tons of pulp and paper annually and is thus second in production here after the Zellstoff-Waldhof concern, with its big plnat at Kexholm, Finland.

Hoesch and Company is reported to have raised its output this year to 90,000 tons of pulp. Besides the Waldhof, Aschaffenburg and Feldmuehls groups, there is only one other leading producer of sulphite pulp in Germany, Verein fueur Zellstoff-Industrie A. G. Berlin, which has fused with the Kostheirmer Cellulose und Papierfabrik A. G.

The Aschaffenburg company's plants are at Aschaffenburg, Stockstadt, Walsum, Redenfelden, Baum-Miesbach, Hoven bei Dueren, and Memel. They employ 3,500 people and consume 26,000 horsepower. The company's annual production includes 200,000 metric tons of sulphite pulp, bleached and unbleached, 6,000 tons of groundwood, and 42,000 tons of paper. The Hoesch company has three sulphite plants located in Pirna and in Heidenau, near Dresden.

Pulpwood Consumption by Finnish Industry

The Finnish Official Statistical Bureau in a recently published table reports pulpwood consumption in 1929 by pulp and paper mills as totaling 4,383,600 cubic meters, of which 1,046,390 meters were consumed in mechanical groundwood mills, 2,484,070 in the sulphite pulp mills, and 853,140 meters in sulphate pulp mills. Three million, five hundred seventeen thousand, three hundred cubic meters consisted of fir, 445,070 cubic meters of spruce, 15,450 cubic meters of broadleaf woods, and 405,780 cubic meters of waste. (Marquard H. Lund, Commercial Attache, Oslo.)

Cheap sawmill waste can become expensive before it gets to the boilers if sufficient attention is not given to the problem of

Handling Hogged Fuel

R. M. HOFFMAN
Seattle Manager, Link-Belt Company

gives some pointers in this article

PRACTICALLY everyone knows that coal and crude oil are used in generating steam which may be converted into electrical energy. They know that in the Northwest much of our electrical energy is generated in the hydro-electric plants which depend on the rivers and streams. Not so many, however, realize that a large percent of the electric power used in the State of Washington is generated by burning the wood refuse from our sawmills.

Coming as waste from the sawmills, the sawdust, bark, slabs and edgings are put through wood hogs. These machines known as "hogs" reduce the wood waste to a size suitable for burning and the resultant fuel takes its name from the machine that produces it.

It has only been during the past year or two that some of the producers and users of hogged fuel have adopted methods and equipment for buying and selling hogged fuel by weight. For the most part, however, hogged fuel is bought and sold by the "unit". This unit is an arbitrary measure of 200 cubic feet, but is of very little value for exact calculation, as it does not take into account weight, moisture content, degree to which the material is packed or other qualities which may affect its combustibility. It should be mentioned here also that the fuel values of different woods vary considerably as do the different grades of coal. This, however, is generally known and understood by buyers and users.

To generate the immense amount of electrical energy used by the sawmills and paper mills of the Pacific Northwest requires, as it can well be imagined, a tremendous mountain of this fuel. This waste, at it comes from the sawmills, obviously has very little value until it can be converted into a useful product and economically handled to a place where it can be reduced to energy. The economy in the burning of hogged fuel as compared with coal or oil, therefore, depends altogether on the comparative costs per pound of steam. The actual cost of the wood waste being so little, a large part of the ultimate cots is made up in the handling of this fuel from the mill where it is produced to the boilers of the consumer, and it is this handling problem that we wish to discuss here.

The handling problem may be logically divided as follows: "The System" and "The Mechanical Equipment".

THE SYSTEM

The system or layout of the hogged fuel handling equipment obviously depends on the local conditions surrounding the plant where the fuel is to be consumed. In the case of sawmills, the hogged fuel is generally largely produced on the same site and can, therefore, be conveyed from the mill itself where it is produced to the boiler house. However, even under conditions of this kind provision must usually be made for the storage and handling of the surplus material which is not consumed at the time it is produced.

A mill will often also produce considerably more hogged fuel than is consumed in its own power plant. If this is the case, equipment must be provided to dispose of this surplus in some way. The usual procedure is to load the surplus on trucks, barges or railway cars and ship it to plants generating power for domestic purposes, or to paper mills and other industrial plants where steam is generated. These receiving plants that we speak of, as a general rule, require a rather elaborate system, because in some of the paper plants the fuel received may come from several different sources, as we have said, either by truck, by barge or by railway cars or a combination of all of these methods of transportation.

In plants of this kind dependent upon outside sources for their source of power, provision must usually be made for a considerable storage to avert a shortage of fuel due to the possible interruption in the transportation system. This storage system, moreover, becomes necessary when a sawmill working in conjunction with a paper mill may operate eight hours, whereas the paper mill may operate for 24 hours a day. In this case it is obvious that sufficient surplus must be accumulated in storage in eight hours to carry the paper mill operation through the remaining 16 hours of the day.

It is apparent that in laying out a hogged fuel handling system the most economical method is a direct line from the source of supply to the boilers. However, in most cases this does not become so simple, because the peaks of production in the sawmill or source of supply do not coincide with the peaks of consumption in the steam plant itself. A provision must be made for diverting a portion of this fuel to storage and then

The economy of burning hogged fuel as compared with coal or oil depends on comparative costs per pound of steam. A large part of the cost of hogged fuel is absorbed in the handling.

This hogged fuel handling system installed for the Puget Sound Pulp & Timber Company at Everett by the Link-Belt Company is one of the most modern. The clam shell bucket seen in the center unloads from barges anchored in a small bay in the dock and dumps into the hopper to the right. From this point the fuel can be distributed to power house or storage as desired. Other unloading facilities permit easy delivery of hogged fuel purchases arriving in railroad cars or trucks.

reclaiming it economically when the occasion demands.

Storage systems have a large bearing on the general layout, depending to a large extent on the ground available and its location relative to the sources of supply and to the boiler house where it is to be consumed. For these reasons in some cases open ground storage proves to be advisable and economical. In other cases huge bins must be erected to house this supply.

Coal and oil, because of their higher fuel value and because of the ease with which they can be handled, become a strong competitor with the cheap hogged fuel unless a system of handling can be devised to transport the hogged fuel economically from the source of supply to the point of ultimate consumption, and this then brings us to the mechanical equipment required for the handling of this material.

MECHANICAL EQUIPMENT

In discussing the mechanical equipment, it is best to discuss the more complicated systems where the source of supply is foreign to the plant where the fuel is used. The plant location and transportation costs which can easily be determined through the transportation companies show immediately whether it is most economical to transport this fuel from its sources to the plant site by truck, by railway or by barge. It so happens that on Puget Sound most large industrial plants are located on waterways and because of the large bulk which can be handled economically in scows, water transportation of hogged fuel from the mill where it is produced to the plant of the consumer, generally proves the most economical.

As to the methods of handling the fuel when it arrives by either automobile truck or railway cars, the method of unloading from this type of transport is generally quite simple and economical. Automobile trucks may be dumped directly into hoppers from which the fuel can be fed by means of conveyors to the main conveyor which transports the fuel to its destination.

Where railway cars are used for hogged fuel transportation, they are generally of a bin type peculiar to the Pacific Coast and especially designed for transporting this material. These cars are as a rule constructed with side doors which may be opened, permitting the bulk of the fuel to fall directly into a hopper or conveyor. With this type of car a portion of fuel must always be removed manually by raking it out into the hopper or conveyor.

Where barges are used, probably the most economical method of unloading is by means of a clamshell bucket, usually at least 2½- or 3-yard capacity. This clamshell bucket in turn may be handled by either a stiff-legged derrick, locomotive crane or a crane of the Gantry type, the type of this equipment being determined by the speed or rate at which the fuel must be unloaded to take care of the requirements of the plant.

From the clamshell the hogged fuel is usually discharged into a hopper from which it is automatically fed at a uniform rate of flow on to the conveying system which handles it either to the power house or to the storage system. From this hopper the problem becomes a conveyor problem.

The conveying of hogged fuel involves several interesting features. To design suitable equipment, which means intimate knowledge of the conditions at the mill where the fuel is to be handled, the problem is not always so simple as it may at first appear. For one thing it cannot always be definitely established how much hogged fuel will be produced or required when the mill is designed. The quantity often runs considerably in excess of the estimated amount and the conveyors must, therefore, be made of ample size to take care of a capacity considerably in excess of the actual requirements.

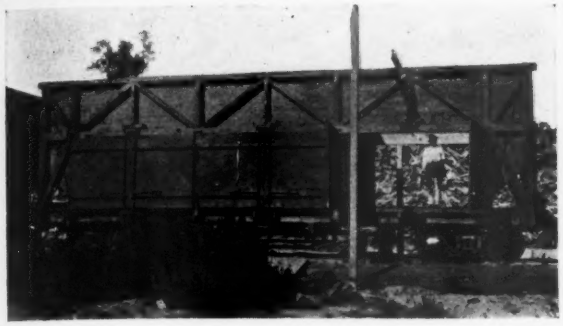
No Smooth Flow

Another thing to consider, hogged fuel is not what might be known as a homogeneous material. As previously stated, wood hogs cut the material to size suitable for burning, although this does not always mean that the material after it passes the hog is suitable for handling. In most mills the knives of the hogs are replaced and sharpened frequently, but even under the best of conditions the knives when dull do not cut the wood into fine pieces, but tear it into long shreds, some of which may be two or three feet in length.

Still another aggravating problem arises in the design of conveying equipment. Inasmuch as the conveyors obviously handle wood refuse it is not unusual for a millhand to toss into the conveyor any loose piece of lumber which may be in the way—probably a 2x4, two

or three feet long, or a 6x8 eighteen inches long, and care must be taken to design the conveyor, if possible, to handle these pieces without having them wreck the installation at some point along the line where these large pieces must be discharged.

Hogged fuel being fairly light, weighing approximately 16 to 20 pounds per cubic foot, it was at first thought that it could be handled by light flimsy equipment. This, however, was soon found to be a mistake as there is a good deal of pitch and rosin in the wood which in a short time covers the steel conveyor trough and materially increases the friction of all the moving parts. **Through test it has been determined that it requires fully as much power to drag a cubic foot of hogged fuel in a conveyor trough as it does to drag a cubic foot of coal which weighs over twice as much.**



A type of hogged fuel car used by the Longview Fibre Co.

In addition to all of these things the operating force at a mill may condemn a conveyor as being unsatisfactory which would be obviously successful were it operated with the same care and consideration that is given to the other mechanical equipment around the plant. For instance, a boiler house designer may determine that the actual consumption within the boiler house will be, we will say, approximately 30 units per hour, and the conveyor is designed along these lines.

The source of supply, however, may have a capacity of 60 units per hour, 30 units of which should go to the boiler house as required and the remaining 30 units converted to storage. It has been found, however, that in many cases through indifferent operation the operator will neglect the gate that splits the material and divert the entire 60 units into the boiler house conveyor that was originally designed to handle only 30 units. This is equivalent to putting a ten-ton load on a five-ton truck. This over-loading eventually results in an unwarranted break down.

All of these conditions have set up and have established some precautionary rules which should be observed in the design of the mechanical handling equipment.

1.—Belt conveyors if used should be of ample width (wider by 30% than would be used for the same cubic capacity of a more homogeneous material) so that the shreds will not catch on the troughing idlers and brush the fuel off of the belt.

2.—Other conditions around the mill may also make the use of wide belts imperative in order that the desired ultimate capacity may be obtained. In some cases the belt may necessarily be unevenly loaded where hogs are fed manually, or where the amount of refuse varies considerably, depending on the character of the log cut. In other cases where the fuel is fed from storage to belt, the material may pack in such a way that it will stand almost vertically and then break down to flood the belt.

3.—Belt trippers have and may be used on belt conveyors for discharging the fuel at intermediate points. If they are used, considerable care should be exercised in the design of the tripper chutes so as to prevent the shreds from catching on the tripper spout and plugging the operation.

4.—Chain conveyors, of either one or two strands of what is known as "refuse conveyor chain", have been used for this work if the centers are not too long or the capacity too large. These chains cannot be used successfully, however, where it is impossible to discharge at least a portion of the fuel over the head end, as the long shreds and pieces prevent the fuel from falling through the chains.

5.—Where it is desirable to discharge the fuel from intermediate points on the chain conveyor as in the case of a storage or boiler house conveyor, two strands of chain with swivel flight attachments and wood flights have proven the most satisfactory and the design of flight conveyors should be governed by the following rules:

High Friction

5a.—In estimating the fuel requirements and the strength of the parts to be used, it has been found from tests made that a co-efficient of friction from .65 to .75 should be used. This high co-efficient of friction is due, as mentioned once before, to the rosin and pitch in the fuel which have a tendency to make the conveyor trough very rough and sticky.

5b.—As there is always a possibility of pieces of wood becoming jammed between the flight and discharge gate, the wood flights are used so they will break and not cause damage to the other conveyor parts.

5c.—Horsepower requirements should be figured on the basis of the above-mentioned co-efficients and the possibility of a jam mentioned in the foregoing paragraph. It must be taken into consideration also that this type of conveyor must frequently stop fully loaded and therefore all parts must be proportioned to amply take care of the starting loads.

5d.—Shafts and chain should be figured so that the proper elastic limit of the material used will not be exceeded should the motor be suddenly stalled.

5e.—Gates in the conveyor trough should be the full width of the trough and not less than 24" lengthwise of the conveyor to allow the long shreds or large pieces to fall through, and if the conveyor is wider than 24" it is advisable to make the gate width at least equal to the trough width.

Look to the Arteries

6.—Bucket elevators of various types have been very successfully used for handling and elevating hogged fuel vertically. However, these elevators, where employed, should be slow moving with buckets of large capacity so as to easily handle the long shreds or pieces of wood that may get into the buckets. It is seldom advisable to use buckets less than 24" long for elevators of even small capacity. All elevator parts should be heavy enough to stall the motor if a large stick or block should become caught between the elevator bucket and the discharge chute.

In looking over the mills of the Northwest, it is often surprising to find how little thought has been given to the design of the fuel handling equipment installed. The boiler house, which one would probably consider the heart of the plant, may be a beautiful structure, carefully designed and well put up, whereas the conveyors, which are the arteries to the heart, are often the flimsiest kind of equipment designed and purchased with little consideration given to the ultimate maintenance and operation cost.

Forest Service Completing Sawmill Waste Investigation

Many guessss have been made concerning the amount of sawmill waste produced in connection with lumber manufacture in the Douglas Fir region of the Pacific Northwest. It has remained for the U. S. Forest Service, however, to get out pencil and paper, scaling stick and slide rule to compute in exact terms the extent of this waste and the present uses to which it is being put. The study has been carried out by the Office of Forest Products, Portland district office, with Alan H. Hodgson, Associate Forester, in direct charge of the problem.

At the present writing the study has been in progress for about one and one half years. The field studies have been completed and the work of tabulating and digesting the results is now in progress. It is expected that the report will be completed about June 1, 1930.

Officially the study is known as "Sawmill Waste and Its Present Utilization in the Douglas Fir Region." About two years ago the same forest office completed an interesting, detailed study of "Logging Wastes in the Douglas Fir Region," which presented to the wood-using industries a fund of somewhat astounding information. While it had been known that present-day logging practice in the Pacific Northwest, with its employment of high powered mass production equipment adapted to rough terrain and big trees, involved tremendous logging wastes and sacrifice of huge quantities of otherwise good wood, the logging waste survey was the first estimate of this waste which was based upon actual study rather than pure conjecture.

Further Study

That study revealed that the Douglas Fir region in the states of Washington and Oregon annually sacrificed some 6,500,000 cords of sound wood, of cordwood size or larger. The logging waste study aroused a great deal of interest in the wood-using industries, not only in the Northwest, but all over the continent. The present study of sawmill waste is to a large extent a continuation of the line of thought which prompted the logging waste investigations, that is, a scientifically directed effort to determine the exact degree of utilization of the Pacific Coast's forest resources.

The Office of Forest Products has in mind a further extension of these studies along three lines, namely: Ways and Means of Reducing Sawmill Waste; Ways and Means of Extending the Markets for Sawmill Waste; and Finding New Uses for Sawmill Waste. In view of present general knowledge it is probable that in the third phase the science of chemistry will play an important part in seeking those uses which do not rely alone upon the mechanical structure of the wood.

Sample Mills

In the sawmill waste study now nearing completion the method employed was to select a number of "sample" mills which could serve as examples of present day sawmilling practice. These mills were further selected on a geographical basis, according to major logging regions. Other factors considered were the location of the mill to centers of population, whether an "inland" or "cargo" mill, and relation to other wood-using industries which might offer a market for sawmill wastes. The entire Douglas fir region was subjected to a preliminary survey before the "sample" mills were selected and thru such action it is believed that the detail studies were confined to those mills which could well be considered to illustrate average conditions.

As far as the tabulations have gone the sawmill waste study gives promise of developing a number of sidelights not fully anticipated at the time the work was initiated. For example, the cooperative interest taken in the studies by the managements of mills in which the field work was conducted, as well as the excellent returns derived from general questionaires from all mills seemed to indicate a deeper interest in more complete wood utilization and a closer study of operating efficiency. Further, there was some indication that generally the younger generation of operators displayed a deeper interest in the subject, indicating perhaps a tendency to place a higher value upon science and research and less reliance on what yesterday was purely rule of thumb.

The study has also revealed, in so far as it has been completed, that a dearth of exact knowledge on the quantities and values of sawmill wastes has hitherto existed. In securing preliminary data many estimates were given by operators on the quantities of their waste, but these estimates were without exception hypothetical and possessed a value directly in relation to the ability of the operator as a guesser.

Exact Data

One fundamental object in putting sawmill waste under the microscope was to replace these guesses with exact data resulting from painstaking field measurement. To this end field crews were stationed in a number of mills to tabulate with a high degree of accuracy not only the physical volume of sound wood in each log entering the sawmill, but to compute the bark, rot and non-commercial content of the log. In addition, the amount of wood taken off at each station thru the mill process, all the way from head saw to refuse burner, was carefully tabulated. The result was, that with careful check on the cubical content of commercial lumber produced, 100% of the log was accounted for.

Just as an example of the care used in the study, the saw kerf, pulp chips, hogged fuel and other such miscellaneous items were measured and reduced to their equivalents in solid physical volume. From these tabulations the forest engineers hope to work out ratios that may be used for computing the actual solid content of a unit of hogged fuel or a unit of pulp chips. While some figures on these two items have been worked out independently by a few operators, the Forest Service tabulations will no doubt be of greater general value because of the larger number of samples involved.

In addition to giving to the industry some valuable ratios, the study will provide some highly interesting data on the range of efficiency in the present day Pacific Northwest lumber mills, this efficiency showing how much or what percentage of the physical volume of the log entering the sawmill is actually converted into commercial products.

The study will give some idea of the total values now being reclaimed from the refuse pile in such by products as lath, pulpwood, fuel wood, and hogged fuel. It is very evident even this early that the development of the woodpulp industry in the Pacific Northwest in the past half dozen years has been a most important factor in shaping the destiny of the lumber industry. That is but one of the trends which, it is expected, the study will reveal when completed.

Oberdorfer on Southern Trip

Max Oberdorfer, president and general manager of the St. Helens Pulp and Paper Company, St. Helens, Oregon, was absent from the mill part of January on a trip to California and Southern points.

PACIFIC COAST PROGRESS

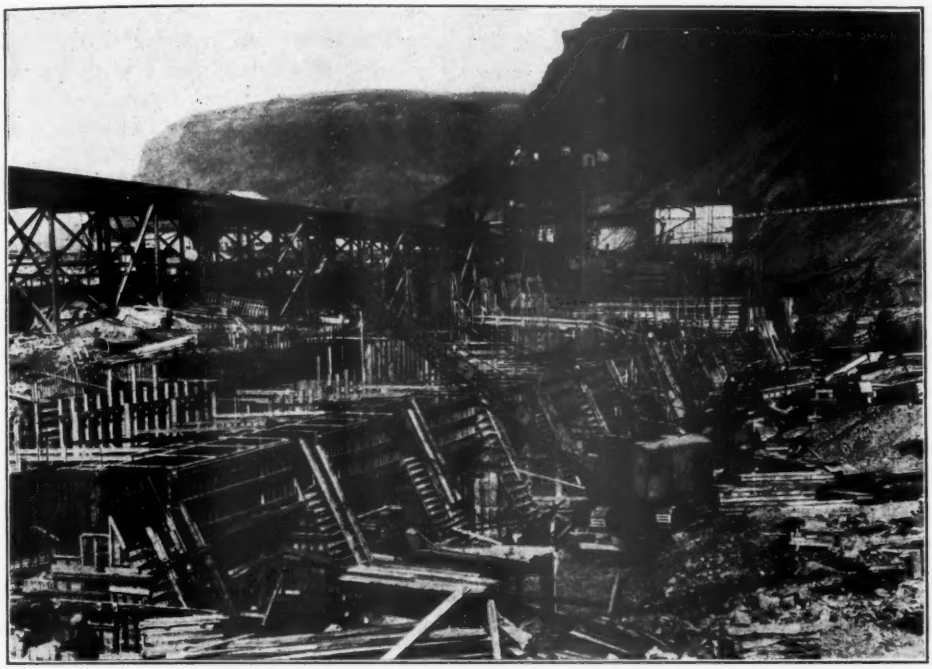


Illustration by courtesy of Puget Sound Power & Light Company

The Mighty Columbia River Is Being Harnessed At a Cost of $28,000,000

JUST a year ago a handful of workmen bundled themselves against the biting wind that whipped down between the high barren hills that flank the river 13 miles below Wenatchee in north central Washington. These few men inaugurated construction on the first project ever to harness the mighty Columbia, greatest of all streams delivering its waters to the Pacific Ocean from the North American continent.

Today, the Washington Electric Co., subsidiary of the Puget Sound Power & Light Co., whose transmission lines spread a network over the Pacific Northwest, is nine months ahead of its initial program which contemplates making available in 1932 the first 84,000 h. p. on an enterprise calling for the ultimate development of 252,000 h. p. at a total cost of $28,000,000.

The Rock Island hydro-electric power development, as this huge enterprise is known, consists of a concrete slab on the river bottom on which rests a series of piers, completed by gate controlled spillways, designed to control the Columbia flow up to 530,000 cu. ft. per second. The total length of the dam is 2400 feet and the height over all is 180 feet.

It is a low head development, to be equipped initially with four wheels of 21,000 h. p. each, with provision made for six additional wheels later. By means of adjustable runner vanes the wheels will operate under a water head ranging from 48 feet maximum to 20 feet minimum.

The Rock Island power plant will tie in with the Puget Sound Power & Light Company's network thru four 110,000-volt transmission lines, each 125 miles long. Work on this phase is proceeding concurrently across the Cascade range. The important useful feature of the Columbia River power is that it will deliver maximum power in case of low water, at times when the West-of-the-Cascades hydro plants are least efficient.

Wenatchee, famed apple country, providing one-fifth of the commercial crop of the United States, valued at $25,000,000, will be able greatly to enlarge its possibilities by developing fruit lands on the higher benches. Lower power rates offered by the Rock Island project permit economic lifting of irrigating waters to higher levels than presently feasible.

A job like the Rock Island project involves a total payroll of $6,000,000 and a peak employment of 2600 men, not including 600 men on the transmission line construction. Into the dam and power station will go 240,000 barrels of cement, 5100 tons of reinforcing steel, 2500 tons of structural steel, 300,000 yards of sand and gravel, 10,000,000 feet of lumber, 100,000 pounds of dynamite, 20,000 cubic yards of concrete and excavation work totaling 320,000 cubic yards.

CROWN ZELLERBACH CORPORATION
343 Sansome Street, San Francisco
Executive Offices

Mr. L. E. Thorpe
71 Columbia Street
Seattle, Washington

January 13, 1931

Mr. Dear Mr. Thorpe:

Your letters to Mr. Bloch and me regarding imports of products of convict labor is received. This answer will suffice for both.

Your direct inquiry is—will Senator Steiwer's bill in our opinion be effective in excluding from the United States those forest products of Soviet Russia which are the product of forced labor.

The language of the bill is direct and explicit. The intention of the bill is well understood. Your inquiry goes to neither of these questions, but to the "effectiveness" of the bill, that is to its practical enforcement by the Treasury Department. Does the Treasury Department desire to exclude or admit Soviet products? This is a pertinent inquiry and arises from the sudden reversals of decisions on pulp wood importations which apparently was brought about by pressure of big United States interests seeking to exploit Russian markets. If the Treasury Department is entirely free from the political influence of big business, would it have made a ruling, as it did, that each particular shipment coming out of Russia was the result of convict labor? Under that ruling, the Steiwer bill or any other bill, however well drawn, comprehensive or fair to American interests, will fail of its purpose, as it seems impossible to obtain such proof on individual shipments. The Steiwer bill does not and can not perhaps be made to affect the rulings of the Treasury Department as to what is satisfactory evidence of convict or forced labor.

The result is that legislation which puts into the hands of a bureau of the Treasury Department power to annul the law by its exactions of evidence, nullifies the law. The Treasury Department must have the power to reject or admit Russian products under the law. It must make its own regulations. Need it make them or is it right that it should make these regulations such that the intent of the law is defeated? If it does, the law is ineffective and that is the answer to your inquiry.

Very truly yours,

M. H. HIGGINS.

M. R. Higgins/ES

Declared Imports of Russian Softwood Lumber and Pulpwood

(Preliminary figures for 1930, subject to correction)
Source—Department of Commerce

	Lumber		Pulpwood	
	Quantity M. ft.	Value (at port of shipment)	Quantity Cords	Value (at port of shipment)
1929	37,936	$ 768,465	6,481	$ 101,213
1930—				
January	10,662	222,810	.....	.....
February	.....	.....	.....	.....
March	.....	.....	.....	.....
April	.....	.....	.....	.....
May	4,032	79,805	.....	.....
June	4,118	82,365	.....	.....
July	12,302	262,576	22,888	208,726
August	12,343	246,741	37,147	339,398
September	.....	.....	43,563	406,660
October	8,893	202,093	35,761	327,822
November	4,622	122,740	35,327	297,798
December	13,795	325,082	.....	.....
Total, 1930	70,767	$1,544,212	174,686	$1,580,404

Average value per cord of pulpwood, $9.04.

AN EDITORIAL

The question of Soviet pulpwood imports, of all Soviet imports, has been too thoroly aired already to necessitate further argument.

With particular respect to the wood-using industries of the Pacific Coast, the disturbance of markets, the depriving of employment and the element of uncertainty injected by actual and potential imports are justification enough to warrant protection.

The Soviet problem is not for today alone. It must be regarded for its potentialities tomorrow. It is not simply a case of keeping out a few cords of wood.

That the issue is vital is manifest by the strong support given to proposed anti-Soviet legislation by Western industrialists.

The several measures designed to accomplish the purpose declares the alertness of Western members in Congress.

The Treasury Department does not now exclude Soviet products. It has publicly declared it will not unless further empowered by special legislation.

Such legislation is of paramount necessity and must be enacted in the present session.

UNITED STATES SENATE
Committee on Interstate Commerce

January 29, 1931

Mr. L. E. Thorpe,
71 Columbia Street, Seattle, Washington

My dear Mr. Thorpe:

I have your letter of recent date calling my attention to the article in the issue of Pacific Pulp and Paper Industry for January, 1931. I thank you for sending this to me.

The only hope we have for getting protection from the importation of Russian products is by additional legisation in Congress. While I think the Treasury Department is fully empowered, and in fact that it is their duty under the law to prohibit importation of Russian products, Department officials have decided they will not do so and state publicly they are awaiting further legislation by Congress on the subject.

You can count on my active and aggressive support for such legislation at all times.

Sincerey yours,

C. C. DILL.

Plans In Abeyance

Tentative plans for establishing an extensive new hydro-electric power project at the north end of Vancouver Island for the use of B. C. Pulp & Paper Company's mill at Port Alice have been set aside, according to President Lawrence W. Killam, and nothing is likely to be done with them this year.

Important improvements in the pulp market would justify the extension of the power resources of the Port Alice mill, but present conditions do not warrant any such change, in Mr. Killam's opinion. The same holds true of the company's policy regarding the mill at Swanson Bay, which has never been opened since the old Whalen Pulp & Paper Mills passed into control of B. C. Pulp & Paper Company. The Swanson Bay plant, however, is being maintained in good condition and will be ready for operation when required.

Mr. Killam reports the pulp market unchanged, with demand from the Orient well sustained in view of the prevailing depression.

S·A·F·E·T·Y

FIRST — LAST — ALWAYS

The best safety device known is a careful man

Pacific Coast Division
Pulp and Paper Section

NATIONAL SAFETY COUNCIL

ROBERT H. SCANLON
Regional Director
Powell River Co., Ltd.
Powell River, B. C.

ANSWERING a challenge which questioned the depth of interest in the vital subject of SAFETY, the pulp and paper mills comprising the industry on the Pacific Coast of North America have, in gratifying response to invitations by R. H. Scanlon, Regional Safety Director, indicated that attendance at and participation in the annual Pacific Coast SAFETY Meeting to be held at Powell River, B. C., on Friday, February 27th, will make that date memorable. Returns up to the end of the first week in February indicated that more than two-thirds of the mill organizations on the Pacific Coast would be represented at the annual meeting and that an active interest was being taken by executive personnel as well as those subordinates directly in charge of the execution of SAFETY practice.

An attractive and well balanced program of events for the day drawn up by the committee in charge of arrangements assures the delegates that February 27th will be a day which is profitable, instructive and entertaining. The fundamental purpose of the annual meeting is to further perfect a Pacific Coast organization which can facilitate ways and means for a cooperative attack on SAFETY problems in mill practice. Those delegates attending the meeting last year are assured that the enthusiasm prevailing at that time will be even further intensified at this coming meeting. The Powell River Company, host at the 1930 meeting, will again be host and, capitalizing on the experiences of last year, can be counted upon to exceed their previous excellent efforts in making the day worthwhile.

It has now been definitely arranged that out of town delegates will sail from Vancouver, B. C., at midnight February 26th on the Canadian Pacific steamer going directly to Powell River. John McIntyre, Powell River Townsite Manager, will head a reception committee to welcome the delegates as they board the boat and to provide them with identification badges.

Arriving at Powell River at 7 a. m. Friday morning the delegates will be provided with transportation to the Rodmay Hotel, where rooms will be provided for their convenience. A get acquainted breakfast will

Safety Day Program

* * *

THURSDAY, FEBRUARY 26

12 Midnight—Delegates sail from Vancouver for Powell River. Identification badges will be distributed on board by Powell River Company reception committee.

FRIDAY, FEBRUARY 27

7:00 A.M.—Delegates arrive at Powell River.

7:30-8:30 A.M.—Breakfast at Hotel Rodmay.

8:30 A.M.-12:30 P.M.—Tour of Powell River plant and townsite and special excursion to Lois River hydro-electric project.

2.30 P.M.—Annual SAFETY meeting convenes in Dwight Hall. Open to delegates, friends of SAFETY work, and general public. Addresses by several speakers on timely subjects.

7:30 P.M.—Banquet for delegates in Dwight Hall.

11:00 P.M.—Delegates sail for Vancouver.

STATEMENT OF ACCIDENT EXPERIENCE—DECEMBER, 1930

Mills in State of Washington

COMPANY—	Hours Worked	Total Accidents	Frequency Rate	Days Lost	Severity Rate	Standing
St. Regis Kraft Co.	53,380	0	0	0	0	1
Grays Harbor Pulp & Paper Co.	48,004	0	0	0	0	2
Fibreboard Products, Inc., Sumner	17,029	0	0	0	0	3
Pacific Straw Paper & Board Co.	16,096	0	0	0	0	4
Everett Pulp & Paper Co.	64,256	1	15.6	8	.124	5
Washington Pulp & Paper Corporation	76,734	2	26.1	23	.300	6
Crown Willamette Paper Co., Camas	255,196	8	31.3	255	.999	7
Inland Empire Paper Co.	63,660	2	31.4	64	1.005	8
Fibreboard Products, Inc., Port Angeles	31,176	1	32.1	8	.256	9
Columbia River Paper Co.	46,660	2	42.8	54	1.157	10
Puget Sound Pulp & Timber Co., Everett Division	59,070	3	50.8	44	.745	11
National Paper Products Co.	65,522	4	61.0	19	.290	12
Rainier Pulp & Paper Co.	40,136	3	74.7	50	1.246	13
Longview Fibre Co.	85,713	8	93.3	58	.677	14
Shafer Box Co.	10,293	1	97.1	5	.485	15
Puget Sound Pulp & Timber Co., Bellingham Division	18,992	4	210.6	71	3.738	16
Puget Sound Pulp & Timber Co., Anacortes Division	5,216	2	383.4	60	11.503	17

The following mills not reporting: Cascade Paper Co.—Not in operation. Tumwater Paper Mills—Not in operation. Pacific Coast Paper Mills.

Powell River, British Columbia, where the Safety conference will be held. This photograph does not show recent plant additions.

be served at the Hotel Rodmay's dining room from 7:30 to 8:30 a. m.

Immediately after breakfast guides will conduct the delegates in groups thru the big newsprint mill and around the townsite. Special attention will be given in this tour to SAFETY practice as carried out by the Powell River Company in its operations. As an added feature there will be a special excursion to Lois River to view the company's new hydro-electric development at that point with the attendant auxiliaries of transmission lines, penstocks, surge tanks and a brief trip up the old logging road to the diversion dam where the Lois River waters are tapped for useful purpose.

As the Powell River Company is just winding up the final details of an $8,000,000 expansion program involving this new hydro-electric project, the installation of a new 226-inch paper machine and the addition of a new grinder room and other equipment, the plant visit is expected to be of particular interest.

The real business session has been called for 2:30 p. m. It will be an open meeting. The Regional Director has been successful in securing a number of speakers to cover several phases of work and provide a balanced program. Major Steere-Clark, a most active figure in British Columbia's SAFETY work, will give an illustrated lecture on "Some Aspects of Industrial SAFETY", an address which was outstanding among those delivered at the recent National SAFETY Convention, in Pittsburgh. Major Steere-Clark, in addition to being an authority on this subject, is also a very effective speaker.

"SAFETY Awards in the Pulp and Paper Industry" will be discussed by R. H. Scanlon, Regional Director and Asistant Manager of the Powell River Company. The subject covers a phase of activity to which Mr. Scanlon has devoted considerable study. The problem of how safe workmanship should be recognized is a problem that has never been satisfactorily solved by executives.

President Percy Abell of the B. C. SAFETY League, who has ben much in the limelight in recent months with his forcible public lectures on traffic SAFETY, will give the benefit of his experience on this phase of the work in an address under the title of "Ways and Means of Traffic SAFETY".

G. M. Aitken, SAFETY engineer of the State Industrial Accident Commission of Oregon, will be on the program to explain the general phases of SAFETY work in his home state.

Others who have so far been scheduled to appear on the afternoon program include W. D. Jenkins of the B. C. Lumbermen's Association who has a fund of knowledge derived from his study of SAFETY conditions in logging camps and sawmills on the Pacific Coast. W. L. Ketchen, manager of the Port Alice Pulp Mill of the B. C. Pulp & Paper Co., will also appear on the program to discuss a subject which will be announced later.

It is aimed to have all of the addresses concise and to the point and originating with authoritative speakers. At this writing the program has not been entirely completed. Several other speakers are at this time tentatively on the program.

At 7:30 in the evening the Powell River Company will again be host at a banquet for the visitors in the company's memorial building, Dwight Hall. At the 1930 meeting this was a most enjoyable occasion full of wholesome entertainment well interspersed with brief addresses from many of the delegates and mill executives present. After the busy round of activities during the daylight hours the banquet was unquestionably a main feature and fitting conclusion for the day's meeting.

Last year the company's mill manager, R. Bell-Irving, presented a forceful and serious address on general matters of SAFETY which proved to be the high light of the evening. Mr. Bell-Irving will again be present at the 1931 banquet meeting and will be called upon for encore.

All told, the prospects are excellent that those who attend the annual SAFETY Meeting at Powell River will spend a day both enjoyable and profitable.

DISCOLORATION
of Pacific Coast pulp and paper
Its Causes and Remedies

Discussed by CHARLES A. NEWHALL,
Consulting Chemist, Seattle, Washington

Editor's Note—This article is not a detailed, scientific presentation of the subject intended for chemists alone. Managements, sales departments, and operating men alike will find in it points of interest and the suggestion that the Pacific Coast pulp industry has certain fundamental recognized problems, cooperative solution of which would react to the benefit of the individual organization.

WHOLESALE predictions were gratuitously offered a few years ago that pulp made from Pacific Coast tree species could never compete with the quality pulps being made from the woods of Eastern North America and Europe, woods with which the world industry held longer acquaintance. Those predictions, made at a time when Pacific Coast pulp was making its first entering wedge in a national domestic and world wide market, have to a large degree been disproved in the course of the swift development of a pulp manufacturing industry in the Far West. Altho success already achieved has been most gratifying, the completeness of the victory is dulled by a few problems not entirely solved.

One trouble is the tendency of Coast pulp to show a darkening of color after a period of storage. Paper, especially newsprint, made from Coast wood is decidedly darker in shade than competing products made in the East. Bleached sulphite not only shows the drop back in color, but also has not as yet been made in a commercial quantity in the high white and high strength grades.

Work to Do

Research organizations and progressive managements willing to face facts have recognized these defects. They have been working to find the causes and remedies. The results so far obtained have been positive to the extent of locating the major causes of discoloration and to some extent in applying partial remedies. Gross discoloration of kraft, newsprint, bleached sulphite and soda pulp has been stopped, but the higher grades of pulp, especially bleached sulphite, such as those best informed believe can be made from our woods, have not as yet been produced on a commercial scale. Results so far obtained have come mostly from "cut and try" methods and have been brought about mainly through costly mechanical and operative changes rather than through studied process improvements.

Enough is now known to make it certain that the problem will not be fully solved on a commercial scale until research in pure chemistry has laid the foundation on which process changes can be developed and then applied to practical mill scale operations. It is confidently predicted that when this research is completed and the findings applied to mill scale operations the pulp and paper made from Pacific Coast woods will equal, if not greatly excel, similar products grade for grade made any where else in the world.

This article will discuss findings developed in the writer's personal work and in the mills of clients who have authorized the release of the findings in the spirit that the problem of pulp and paper quality is common to all the Coast producers, and that a pooling of information will speed up the solution of the recognized difficulties.

It is not news to say that Eastern buyers are often cold to the Pacific Coast product because a trial car had not worked out well. Inquiry usually develops the fact that the pulp or paper had been purchased through brokers and the buyer was often unaware of the name of the producer. He only knew that it was a Coast product. Thus one mill's difficulty builds sales resistance for all Coast producers.

Iron Compounds

The similarity of the darkening of newsprint, kraft, and sulphite, to the darkening in photographic processes and the development of color in the old fashioned "iron-gall" writing ink pointed to the presence of iron compounds as being a likely source of trouble. In these photochemical and oxidization reactions a colorless iron salt—ferrous gallotannate or the iron potassium oxalates or ferrous formate as examples—are changed from colorless or nearly colorless compounds to highly colored compounds. The colorless forms are easily soluble, but when once changed to the colored form the resulting salt is insoluble and is firmly fixed or "mordanted" to the fiber of the writing or photographic paper. It has long been known that our pulp woods are much higher in "tannins" than are the eastern pulp species. It is also known that the water used in most of the Coast pulp and paper mills carries very much more iron than is found in the soft and basic waters of the East and Midcontinent sections.

Authorities state that a water for use in bleached sulphite or high grade white paper manufacture should show an iron content (Fe) of not over 0.1 part per million. Our water shows a variable iron content depending on season, but all waters so far tested—with the exception of the Columbia River at low water—show an iron content from three to one hundred times the maximum allowable. In addition to being high in dissolved iron our waters are usually very corrosive to iron pipe and equipment; the pH of all waters so far

tested being well below the point at which iron is insoluble, e.g., 9.4 for ferrous iron.

Under practical mill conditions we have found astoundingly high iron content in both fresh and white waters used to convey and wash the pulp. An extreme case showed 97,500 parts per million of iron (Fe) this being the liquid portion of a black "slime" collected from a white water line that ran to the blow pit wash water system. The usual slush water shows about 10 parts of iron (Fe) per million under sulphite mill conditions while the pulp suspended in this water will carry 40 parts per million. (Authorities state that cellulose adsorbs both iron and tannin from dilute solutions of these substances.)

In the case where the slush water showed 10 parts of iron the fresh water showed only 0.3 parts, **indicating that the iron was mostly picked up from the mill pipe lines and iron equipment and from the wood and the cooking liquor.**

Experiments show that a distinct discoloration is produced in bleached sulphite and in white filter paper by as low as one part per million of iron (Fe). Thus a minute quantity of the black slime or of an iron containing wash water will discolor an immense quantity of fiber provided only the iron is fixed on the fiber in one of the highly colored combinations. (Experiment —Prepare a solution of Ferrous formate by dissolving in dilute formic acid under a Bunsen Valve an excess of clean iron filings. This solution even up to 100 parts per million iron is crystal clear and colorless, provided no oxidization has taken place. Soak in this solution a piece of white sulphite or white iron-free filter paper; dry in air; saturate with tannic acid solution or an oak gall extract; wash repeatedly and then dry. Compare color with blank and assay for iron. If sample is dried slowly a yellow film similar to the discoloration so often seen on laps of bleached sulphite will develop and assay will show this to be high in iron—probably is a Ferric formate.)

The following assays taken from a paper by J. G. Priestly, Chemical Engineer, City of Seattle, are typical of the Pacific Northwest waters. No. 1 is Cedar River water as drawn in January from a tap in the City Laboratory. No. 2 is from the Cedar River at the First Falls. No. 3 is from the Cedar River at the Second Falls after the flow from a high iron-content spring has entered the main river. In his paper Mr. Priestly stated that the mineral composition of the river water shows a material change over different seasons of the year. There is also a very wide seasonal change in organic content and biological life.

Element: expressed in parts per million	No. 1	No. 2	No. 3
Silica	10.0	6.1	15.9
Iron	1.4	.4	5.1
Calcium	9.2	2.1	8.8
Magnesium	2.3	.5	2.1
Sodium and Potassium	1.9	1.2	4.1
Carbonate	.1	.0	.3
Bicarbonate	34.3	11.0	47.3
Sulphate	1.4	.4	2.1
Nitrate	.3	.1	.8
Chlorine	2.0	....	....
Suspended matter	15.6	.2	21.8

To determine at what stage in the pulp making process an iron coloration could be fixed or mordanted on the fiber a series of tests and observations was made. In sulphite and sulphate processes it was found that the pulp directly from the digesters was low in iron and nearly colorless. When washed in glass and with distilled water this fresh pulp retained a light color, but if allowed to stand exposed to air in the black liquor the color would develop on the pulp and no amount of washing could bring as high a white as when washed at once. If the wash water contained dissolved iron dark coloration of pulp would develop.

With kraft pulp any shade of color from light cream white up to inky black could be developed in the pulp by variations in the wash procedure and in the amount of iron in the wash water. With sulphite pulp that portion of the iron that is soluble in cooking acid remains in the black liquor in a reduced form—ferrous sulphite most likely.

If pulp that is contaminated with sulphite liquor is allowed to stand in contact with iron equipment as in stub ends of pipe lines or as against an iron target a jet black coloration is developed in the fiber. Assay of this black fiber showed in one sample an iron content—(Fe) of 5333 parts per million; the iron being in the form of sulphide. Washing this black fiber with sulphurous acid changed the color from jet black to a good white and reduced the iron content to 389 parts per million. This acid-washed fiber when bleached, developed the yellow shade and color drop back characteristic of iron contamination.

Unbleached sulphite shows from 10 to 40 parts per million of iron (Fe), depending on the cooking schedule, strength of free SO_2 in cooking liquor, and on thoroness of washing in the blow pits. Bleaching changes the colorless iron compounds present in the sulphite to the highly colored form. The form in which the iron is fixed in the unbleached stock seems to have a greater bearing on the color of the bleached pulp than does the amount of the iron. The sulphite cook does not break up the iron "soaps" present originally in the wood. Similar insoluble iron and lime "soaps" are formed during washing with iron-containing water. These "soaps" not only color the bleached pulp, but they also appear to encrust or coat the fiber so that the bleach liquor can not react with the organic coloring matter normally easy to remove by the bleach process.

Remedies

Remedies that are helping or that give promise are the use of Chlorine or Chloramine to prevent the formation of the black sulphide "slime"; the use of reducing acid wash after bleaching to remove any free ferric hydroxide that may have been formed by the breaking down of ferrous salts; the use of trisodium phosphate on the washed brown stock and on the half bleached stock to dissolve the iron and lime "soaps"; and finally the use of the absolute minimum of iron equipment.

The replacement of iron equipment appears to be the most costly method and least effective for the reason that **much of the iron comes into the mill with the wood and cooking liquor.** Where the proper process and operating schedule is followed the dissolving of iron from mill equipment can be entirely prevented. The least costly and most effective remedy is based on the use of the trisodium phosphate with a modified cooking and washing schedule. The use of chloramine or chlorine has been effective in preventing the formation of the black slime and to that extent prevents discoloration. The method does not remove the iron. It simply prevents the formation of the insoluble black iron sulphide and leaves a colorless iron sulphite or a yellowish sulphate instead. (Patent applications cover the chloramine and the trisodium phosphate methods).

With ground wood pulp and newsprint furnish a whole series of color effects can be developed all the way from a jet black to snow white, depending on the amount of iron and the form in which it is fixed on the fiber. In newsprint the problem of preventing the iron discoloration is more complicated than the case

(Turn to page 40)

T-R-A-D-E - T-A-L-K

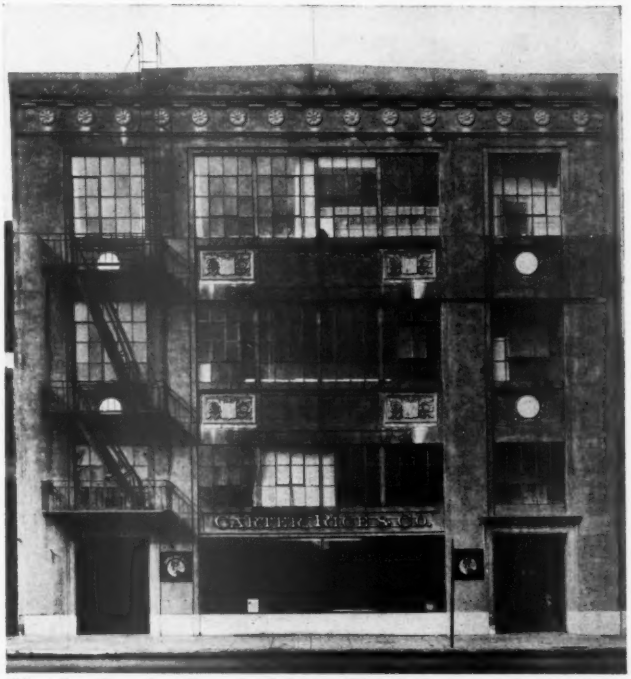
Devoted to the Paper Trade of the Western States

Carter, Rice in New Line-Up

Carter, Rice & Company, distributors of printing papers, is establishing its western headquarters at San Francisco, from where its interests on the Pacific Coast will now be administered. This company is maintaining fully equipped warehouses at San Francisco, Portland and Seattle, composing its Western organization, distributing complete lines of fine papers, and representing many well-known manufacturers.

Management of all the Coast divisions will continue to be under the direction of Charles H. Beckwith, who has been for the past four years at the Seattle office of the company. Mr. Beckwith is to take up his residence at San Francisco about February 1st, with offices at the company's new location, 240 Howard street.

Division managers will continue in immediate charge of the respective branches. E. E. Embree, well known in the paper trade of the Northwest for a good many years, and for the past five years the company's sales manager at Seattle, will direct that division. James W. Murphy will manage the Portland division. He has been for several years Oregon sales manager for the company. The San Francisco division of Carter, Rice & Company continues under the management of Allen M. Olinger, who for a number of years has served in this capacity.



New San Francisco Branch of Carter, Rice & Company Corporation
Illustration by courtesy Pacific Printer and Publisher.

Hubert L. Carter of Boston, president of the company, who visited the Coast early in February, anticipates distinct advantages from the changes — both to the trade which Carter, Rice & Company serves, and to the manufacturers which the company represents in the West.

Blake, Moffitt & Towne Distributes Howard Papers

Of genuine interest to Pacific Coast paper buyers is the announcement made by the Howard Paper Company, Urbana, Ohio, of the appointment of Blake, Moffitt & Towne, as sole distributors of the Howard line on the Pacific Coast, effective February 1.

Through the new Blake, Moffitt & Towne connection the Howard papers will be made available in 17 strategic market centers of the Pacific Coast, including San Francisco, Los Angeles, Seattle, Portland, Oakland, Sacramento, Long Beach, Fresno, San Jose, San Diego, Tucson, Phoenix, Yakima, Boise, Medford, Salem and the Tacoma Paper and Stationery Company.

The Howard Paper Company has enjoyed its full measure of prosperity as a pioneer in the business of papermaking. For more than 20 years, the Howard name has been prominent in the field of bond paper manufacture. Howard Bond, since its advent as a general purpose business paper has enjoyed a steady and rapidly increasing acceptance that speaks favorably for its uniformity and quality. The Howard line includes the recognized Howard Bond, Howard Laid Bond, Writing, Ledger, Mimeograph, five finishes; 13 lb. for air mail, 10 colors and white, with envelopes to match.

Planning For Del Monte—May 11-16

When the jobbers get together the week of May 11 to 16 at Del Monte to hold the annual convention of the Pacific States Paper Trade Association they will have meeting with them for the first time an organized body of manufacturers, recently organized as the Pacific Coast Association of Pulp and Paper Manufacturers. Altho members of the manufacturing group have been attending the meetings in recent years as individuals it was not until the 1930 Del Monte session that they went into a huddle and decided to shape up an organization of their own.

Plans for the Del Monte session are now being whittled at by the jobbers. L. A. Colton, Zellerbach Paper Company, San Francisco, is chairman of the committee in charge of "Program for 1931 Convention." Gus Johnson, San Francisco representative of the Everett Pulp & Paper Company, who has by custom come to handle the golf events, will no doubt head off this feature once again.

Everett's Fairmont Book

In a recent broadside the Everett Pulp & Paper Company featured its Fairmont book paper as the grade used in the 1931 calendars issued by the coast-wide distributing agency of Blake, Moffit & Towne. The broadside portrayed a number of skiing scenes, illustrating the adaptability of the paper to line etchings and halftones.

Doran Makes Northwest Swing

Ed Doran, vice president of Blake, Moffit & Towne, left his desk in the executive headquarters of the company at San Francisco for a 10 days' trip through the Northwest in January. Mr. Doran visited the northern branches of the company and went as far north as Powell River, B. C., where he witnessed the new No. 1 news print machine put into operation by the Powell River Company, Ltd., in late December. The Blake, Moffit & Towns organization last year arranged with Powell River to distribute its newsprint in the Pacific Coast territory.

CHARLES H. BECKWITH
has transferred
his offices to
San Francisco
from which city
he will direct
Western business of
CARTER, RICE & COMPANY CORPORATION

Coast Men Attend National Meet

Two west coast paper men will represent the Pacific States Paper Trade Association at the convention of the National Paper Trade Association of the United States at the Hotel Pennsylvania, New York, beginning February 16. They are Harold L. Zellerbach of the Zellerbach Paper Co., San Francisco, and O. W. Mielke of Blake, Moffitt & Towne's Portland office.

A number of Western paper people are on some of the committees of the National association. E. A. Doran, Blake, Moffitt & Towne, San Francisco, president of the Pacific States association, is on the executive committee of the wrapping paper division and also is on the bag committee of this division.

Other committeemen from the West on the wrapping paper committees are Harold L. Zellerbach on the trade relations committee. In this work Mr. Zellerbach is chairman of the trade practice committee. J. W. Thompson of the Seattle office of Blake, Moffitt & Towne, is on the twine committee; T. J. Finerty of the Zellerbach Paper Co., San Francisco, is on the kraft committee; Eugene A. Breyman of Zellerbach Paper Co., San Francisco, is on the survey committee, and W. E. Taverner of Taverner & Fricke, Los Angeles, is on the gummed tape committee.

In the fine paper division of the national body H. L. Zellerbach is on the executive committee, and O. W. Mielke is on the administrative committee.

The coming convention of the National association will be its twenty-eighth annual.

Richard Schmidt Passes

Richard Schmidt, vice president of the Schmidt Lithograph Company since 1875, when he came to San Francisco from Germany, died at his home in San Anselmo, California, last month.

L. A. Jobbers Organize Credit Bureau

Led by George I. Tompkins, Sierra Paper Company, Los Angeles, and chairman of the committee for the purpose of adopting by conference terms and credit agreements of the Pacific States Paper Trade Association, four Los Angeles paper houses have formed the Printing Paper Credit Bureau of Southern California. They are Blake, Moffitt & Towne, General Paper Company, Sierra Paper Company, and Zellerbach Paper Company.

The director of the new bureau will be S. J. Coffman, for many years identified with various association activities in Southern California, and brother of J. R. Coffman, secretary of the Wholesale Paper Dealers Association of Los Angeles.

"Present day merchandising conditions have brought about many far-reaching changes through standardized trade practices, which are recognized as being helpful to all business."

"Not the least of these is the establishment of definite credit terms, the maintenance of which will prove of benefit to both seller and purchaser alike," said Mr. Tompkins.

On and after April 1, 1931, all paper sales (except roll news print which is net) shall be subject to 2% cash discount if paid on or before the fifteenth of the next succeeding month following date of billing, net on the day following. If not so paid, the account then becomes past due.

If an account remains unpaid on the sixteenth day of the third month following date of billing, further credit accommodations will be discontinued until the account is brought within this time limit. Interest will accrue from first day of third month following date of billing.

The credit bureau will maintain a reporting system on unpaid accounts for the confidential use of its members.

In order to work no hardship on any customer, the members of the bureau are prepared to arrange terms of settlement of accounts that are now owing over ninety days, so that they can be reduced gradually on a systematic basis.

This is said to be the first time on the Pacific Coast that a credit bureau for the exclusive use of paper houses has been formed.

Name Changed to Scott-Hosfeldt Co.

Following the purchase of practically all of the capital stock of the Packer-Scott Company of Portland, Oregon, on July 1, 1930, by V. C. Scott and A. D. Hosfeldt, it has been decided to change the corporate name of the firm to the Scott-Hosfeldt Company.

This change does not affect the financial standing of the company, and is made only to identify the present owners with the customers of the company and to prevent confusion with the Packer-Scott Company of Washington, located at Seattle.

We're For This Idea

A noiseless job of renovating is being done at the San Francisco office of Blake, Moffitt & Towne, where a large office is being prepared adjoining the main entrance for Ed A. Doran, vice-president and general manager, who has his headquarters now in the rear of the main offices. The noiseless feature results from the fact that the carpenters start work each evening at five o'clock, so as not to bother the office personnel during the day hours.

New Types
New Models
New Machines

EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

New Dealers
New Branches
Appointments

Shartle Buys Hayton Pumps

Announcement has recently been made of the purchase of the Hayton Pump & Blower Company of Appleton, Wisconsin, by the Shartle Brothers Machine Company, Division of the Black-Clawson Company.

This move is in line with the policy of the Black-Clawson Co. to manufacture a complete line of paper mill machinery, enabling a customer to purchase practically their entire equipment at one source, and thus center responsibility for the equipment instead of dividing it among a dozen firms. This purchase adds a line of centrifugal pumps, Bond batch refiners, circulating agitators and valves to the existing lines.

The Hayton Pump & Blower Company has an international reputation on centrifugal pumps, Hayton agitators and batch refiners.

The entire plant is being moved to Middletown. Sales will be handled through the present sales force. Mr. Bond, who will head this new department at Shartle Brothers, is a recognized authority on centrifugal pumps, and is also a man of wide experience in paper mills.

It is understood that the Shartle organization will offer Mr. Bond's services to the mills, assisting them in determining costs on present methods of pumping and possible ways of making savings along this line.

Willamette Iron Manufacturing Coarse Screen

The Willamette Iron and Steel Works, Portland, is manufacturing four coarse screens to be installed in the new 150-ton bleached sulphite pulp mill now under construction by the Weyerhaeuser Timber Company at Longview, Washington. This screen is a development of Fibre Making Processes, Inc., Chicago, for whom the Willamette company acts as Pacific Coast manufacturing representative. In addition to bringing the actual fabrication of the equipment to the Pacific Coast, the arrangement with the Willamette company also expedites matters of servicing.

The F. M. P. Coarse Screens, which have been on the market for about 18 months, provide an effective means of removing from the stock, at the beginning of the cycle, those impurities which with other screening methods are passed into the system to be rejected at a later step. It performs this function without loss of fine fibre. On ground wood the screen takes the place of both bull screen and the knotter. The relatively fine perforations in the molybdenum plates do not pass any impurities which are objectionable to the fine screens. Consequently, the work of the fine screens is considerably reduced. In the F. M. P. Coarse Screen, with its gravity feed, the impurities are gently rolled, showered and rejected. No breaking action takes place.

By means of an arrangement of baffles, the rejections are propelled over a spiral path 80 feet long, under a heavy spray of white water with the result that the rejections are thoroughly washed and free from good fibres.

The drive consists of a combination spur and worm gear reducer, running in oil, direct connected to the motor, making a self-contained unit; no belts, countershafts or outside reducers are required.

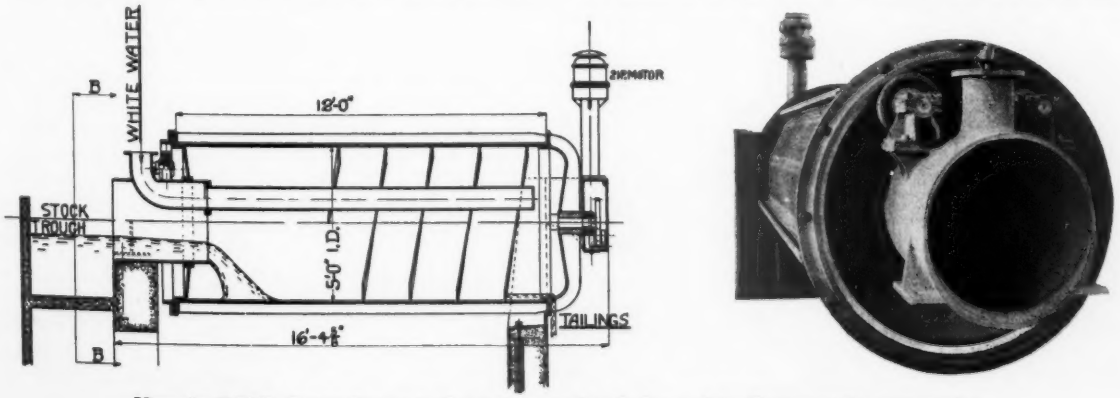
The rim-track at the inlet end is suspended on supporting rollers, thus eliminating trunnions underneath, large journal, or shaft through the center. SKF bearings are used throughout.

The F.M.P. Coarse Screen is built in two sizes with respective capacities of 65 and 35 tons of chemical pulp per 24 hours with ¼" holes. For ground wood capacities are respectively 100 and 50 tons per 24 hours with 3/16" holes.

Taylor Instrument Engineer Visits Coast

C. D. De Mers, pulp and paper engineer for the Taylor Instrument Companies, Rochester, New York, is making a trip throughout the Pacific Coast territory, covering all of the pulp and paper mills. His mission is particularly to acquaint the mills with the Tycos Witham Junior Moisture Content Control for pulp and paper drying machines, and generally to acquaint them with the various other new applications of the Tycos line.

Mr. De Mers is an engineer who has been associated with the pulp and paper industry for 16 years and anticipates making further visits to the Pacific Coast.



Here the F.M.P. Coarse Screen is shown from and end view and in diagrammatic cross section

T-A-P-P-I

Pacific Coast Section

Chairman—C. W. MORDEN,
C. W. Morden Co., Portland, Oregon

Vice-Chairman—HARRY ANDREWS,
Powell River Co., Ltd., Powell River, B. C.

Secretary-Treasurer—MYRON W. BLACK,
Inland Empire Paper Co., Millwood, Wash.

Plans Shaping For Spring Meeting

Those in charge of arrangements for the annual Spring meeting of the Pacific Section of TAPPI report steady progress that points to a successful conclave at Everett, Washington on Saturday, April 18.

Carl Braun, of Everett, chairman of the committee on general arrangements, advises that the meeting and banquet will be held in the Monte Cristo Hotel. At least half of the day will be given over to tours of Everett's two mills, the 75-ton book paper mill of the Everet Pulp & Paper Company, and the 175-ton bleached sulphite pulp mill of the Puget Sound Pulp & Timber Company.

The managements of both of these organizations have fallen readily into the idea of cooperating with the Section and will expedite the inspection trips by providing guides. The two mills will offer many points of interest for the delegates as the process and final products in each case are quite distinctive.

Greater attention to some of the little details that go to make a good meeting will be in evidence at the Everett session, the committeemen capitalizing upon the experiences of the preceding meetings.

Meanwhile the Section chairman, C. W. Morden, is rounding out a program for discussion which aims at touching many different departments of the industry.

Articles of organization are being put into final shape. In this consideration the thought is kept in mind of establishing a certain standard relationship with other Sections of TAPPI. The approved form of membership application blank is now up for final approval by the executive committee and its exact text will be announced soon. Some delay has been experienced in this phase due to prescribing the exact form of affiliate membership.

Those desiring to submit papers for the Spring meeting of the Pacific Section of TAPPI shall indicate this by letter to the chairman of the Section not later than March 15, indicating in said letter the subject of the paper and enclosing either the paper in its entirety or an outline thereof. It may not be possible to give space on the program to all the papers offered, but the executive committee will try to arrange for this as far as possible.

C. W. Morden,
Chairman Pacific Section, TAPPI,
200 Oregonian Building,
Portland, Oregon.

TAPPI Organizes New Divisions

In line with the functional reorganization of TAPPI inaugurated about two years ago the association announces the creation of an Engineering Division. John F. Rhoades, chief engineer of the Mead Corporation, is general chairman of the new division.

The Engineering Division is broken down into committees and subcommittees. The Heat and Power Committee includes the following subcommittees: Production and Transmission of Heat and Power; Heat Utilization on Chemical Pulping Processes; Heat Utilization in Pulp Drying and in Making Paper and Paperboard; and Power Requirements.

The Equipment Committee will study in a general broad sense all equipment favorable to the paper industry.

The Materials of Construction Committee will study such items as materials for unusual service, protective coatings, corrosion problems, special linings, etc.

It is expected that a definite plan of work for the coming year will be presented at the annual meeting of the national body of TAPPI at New York, February 17 to 19.

Three Pacific Section members have been given berths on the Engineering Division committees. J. L. Hooper, chief chemist for Pacific Mills, Ltd., at Ocean Falls, B. C., is on the "Production and Transmission of Heat and Power" subcommittee of the Heat and Power Committee.

D. L. Cousins, assistant superintendent of the St. Regis Kraft Company's sulphate pulp mill at Tacoma, Washington, is also on the Heat and Power Committee, but is placed on the subcommittee on "Heat Utilization in Chemical Pulping Processes."

L. K. Bickell, chemist at the Port Alice pulp mill of the British Columbia Pulp & Paper Co., Ltd., is on the Materials of Construction Committee.

New TAPPI Member on Coast

With the coming West of E. W. G. Cooper, the Pacific Coast adds one more practical paper mill man to its growing army of operators. Mr. Cooper has accepted a position as paper maker at the Camas, Washington mill of the Crown Willamette Paper Company. He was formerly superintendent of the Don Valley Paper Mills, Toronto, Ontario, Canada, and recently with the Racquette River Paper Company, of Potsdam, New York. He is a member of TAPPI.

Lockport Man Will Visit Coast By Plane

William H. Lee, general manager of the Lockport Belt Company, Newfane, N. Y., who has been covering the Middle West and Atlantic states in his own Lockheed plane, is planning to visit the Pacific Coast territory by way of the aerial route. Mr. Lee will travel directly by plane to as many of the Coast mills as he can. He will bring with him in the plane a felt for one of the Pacific Coast plants.

Alan Dunham, Portland, who represents Lockport felts on the Pacific Coast, announces that the date of the trip has not yet been definitely fixed.

Repeat Order for Wagner Furnaces

The National Paper Products Company, of Port Townsend, Washington, has placed an order with the J. O. Ross Engineering Corporation for two additional Wagner furnaces. This recent order makes a total of three furnaces for this modern 200-ton kraft mill.

Rainier Mill Omits Dividend

The Rainier Pulp & Paper Company, operating a 150-ton bleached sulphite pulp mill at Shelton, Washington, has omitted the regular quarterly dividend of 50 cents a share on class A stock, which would have been payable March 1. Dividends on class B stock were discontinued some months ago.

Notification of the dividend omission is contained in a letter to stockholders from E. M. Mills, president of the company, in which the action is attributed to poor condtiions in the pulp market.

The letter says in part: "We are pleased to advise you that we have been successful in developing a special cellulose which we are marketing under the registered trade name of Rayonier, for use and manufacture of rayon, cellophane and similar products and for which under conditions of normal business activity, a large and profitable market exists. Plans in this respect have been delayed by the low level of general business activity and by the great conservatism shown by manufacturers of the above mentioned products.

"Nevertheless Rayonier is being sold in limited quantities in the United States, Japan, South America and Europe."

Mr. Mills points out that expenses for plant improvement and for experimental work in connection with the development have been paid for out of the company's current assets. Financial markets have not been favorable to financing which would reimburse the company for these expenditures.

"Plant production at an economical rate has exceeded sales so that inventory has accumulated," Mr. Mills says in his letter. "As a result of these conditions the working capital condition of the company is unfavorable, and until there is a recovery or improvement in business conditions, it is to the best interest of all stockholders to conserve the company's cash resources and so be in a position to reinstate payment of the dividends whenever earnings warrant.

Name Changed to European Trading Company

Paul J. Giese, president and manager, has announced that effective January 10, 1931, the name of the Bocker European Trading Company, Inc., has been changed and shortened to European Trading Company, Inc.

Mr. Giese has been closely identified with the pulp and paper industry in the United States and in Europe for more than ten years. He is a man of practical operating experience. He was at one time associated in an operating capacity with the Felix Gunther Paper Mills at Greiz, Germany, and later was in the paper mill supply and export business with headquarters at Hamburg. In this connection he was retained as technical expert on pulp and paper mill machinery and supplies.

What is now the European Trading Company Inc., had its beginning in 1928. Since the establishment of the business Mr. Giese has secured for the firm the exclusive Pacific Coast agencies for some of the largest manufacturers of machine knives, fourdrinier wires and felts and has successfully introduced these products in Pacific Coast mills. Mr. Giese points out that he has been careful to select those lines of equipment and supplies which are known for supreme quality and workmanship achieved in a century of experience by manufacturers supplying the wants of an established pulp and paper industry.

The office of the European Trading Company Inc. is in the National Bank of Commerce Building, Seattle.

The Mill on the Cover

In 1928 the Shaffer Box Company, which for many years had been in the business of cutting up Western Hemlock logs for box shook, completed a 50-ton unbleached sulphite pulp mill and gave to Tacoma, Washington, in particular, and to the Pacific Coast in general, a concrete example of the trend of the times toward more complete wood utilization and the integration of two distinct industries using the same class of raw material.

The Shaffer pulp mill is operated as a department of the company. It draws its wood supply from the lumber mill, absorbing all the sound pulpwood available in the sawmill waste and using logs to bulk out this supply when deficiencies occur. Sawmill refuse not suitable for pulp goes into a common boiler plant which supplies the steam needs of both pulp and lumber departments.

The mill is a two-digester plant, equipped to dry its pulp with the aid of a Kamyr press and Fidalgo type warm air dryer. The finished pulp is baled in shredded form.

In recent months the Shaffer company has placed A. D. Wood in charge of pulp production. Mr. Wood is an inventor of some note in the pulp and paper industry, a number of machines of his design now being in use throughout the country. In the past several years Mr. Wood has confined his activities largely to the Pacific Coast and has in that time made himself well known in the Coast industry.

In the comparatively brief time Mr. Wood has been at the Shaffer mill he has instituted a number of minor changes to effect an improvement in the pulp, the net result of which has been to widen the acceptance of the product on the market. Production has been maintained at unusually good capacity in recent months at the Shaffer mill.

Angus McLean Passes

Angus McLean, one of the outstanding figures in the Canadian pulp and paper industry, died recently in Montreal at the age of 70. He was founder of the Bathurst Power & Paper Company, of which he was for many years president, and he took an active part in the affairs of the Canadian Pulp & Paper Association.

Pulp & Paper Mill Supplies

FELTS

MACHINE KNIVES

FOURDRINIER and CYLINDER WIRES

All Widths

European Trading Co., Inc.

National Bank of Commerce Building

SEATTLE ELiot 4818

Discoloration

(Continued from page 34)

of sulphite, because the wood dyes normally present in the ground wood are colorless when in a slightly acid water, but become highly colored the instant the pH passes the critical point on the alkaline side. Thus an acid condition must be maintained in all parts of a newsprint mill. This ordinarily means much increased iron contamination where iron equipment is used, but with certain process modification all iron equipment can be safely used.

The use of a phosphate radical—phosphoric acid, mono- di- or tri-sodium or ammonium phosphate, for instance—to cause the iron to combine as the colorless ferric phosphate offers much promise. The proper pH and concentration of the PO_4 radical is maintained by addition of the prescribed chemical, with or without the use of chlorine or chloramine, to the mill water. (This method is under patent application). In addition to its effect in producing a colorless iron salt the phosphate radical also retards or prevents the solution of iron from mill equipment in accord with the well recognized rust proofing reactions.

In general, it may be safely stated that the problem of producing a white strong pulp and paper from Pacific Coast woods is mainly a problem of preventing the fixing of the highly colored iron compounds on the fibers during the pulo and paper making process, and of doing this without damage to the physical strength of the fibers.

Spaulding In Oregon Senate

Charles K. Spaulding, president of the Spaulding Pulp & Paper Company, Newberg, Oregon, who was appointed to the state senate by Governor Meier early last month to fill a vacancy caused by the death of Lloyd Reynolds, has been made chairman of the senate committee on public buildings and institutions, vice chairman of the committee on county and state offices and vice chairman of the committee on penal institutions. He was also given a place as a member of the game committee, the committee on mining and on the ways and means committee.

Longview's Colored Kraft For Laundries

A colored kraft, designed expressly for the laundry industry and manufactured by the Longview Fibre Co., Longview, Washington, is meeting with a consistent demand, according to representatives of Blake, Moffit & Towne, distributors. The paper comes in four colors and is watermarked with the slogan, "The Laundry Does It Best." Many Pacific Coast laundry owners have adopted the new wrap, it was said.

The Oregon Section of the American Society of Mechanical Engineers, Portland, Oregon, are holding a Pulp and Paper meeting at the Heathman Hotel, Portland, Oregon, at 6:30 P.M., Friday, the 20th of February.

This meeting will be in the form of a dinner meeting to which all interested are invited at $1.00 per plate, or if they do not care to attend the dinner they are invited to join at 7:45 for the program.

The program will be as follows:

C. W. Morden, Chairman Pacific Section, Technical Association Pulp & Paper Industry. Paper: A Brief History of Pulp & Paper Industry on the Pacific Coast.

C. C. Hockley, Consulting Engineer, Spalding Building, Portland, Oregon, Specializing in Pulp, Paper & Power. Paper: Developments in the Pulp and Paper Industry.

Ray Smythe, Manager Willamette Iron & Steel Co., Portland, Oregon. Paper: Developments of Pulp and Paper Machinery. Illustrated with slides.

Powell River Winding Up Work

Powell River Company will commence taking power from Lois River some time in April. By that time the engineers will have been able to take advantage of the low water in the spring to put the finishing touches to the temporary dam. From here the water used for power purposes is piped to the penstock and power house at Stillwater where the energy is generated and conveyed to the paper plant at Powell River by a new transmission line.

The whole of the Lois River program is about three months ahead of the original schedule and every part of the job has been completed on time. The swinging into use of the Lois River power will represent the last stage of the expansion program launched by the company early last year. Construction crews, it is expected, will be off the ground by the beginning of May, if not before.

No. 7 machine, which went into production in December, has been operating satisfactorily so far and on one day in January it turned out 135 tons of newsprint in a 24-hour day, which is considered an unusual record for a machine just being broken in. The average daily production of No. 7 during the year will probably be about 100 tons as market conditions do not justify much heavier output at present.

New Paper Mill Proposed

The Sunset Paper Products Company, Ltd., organized under Nevada laws, proposes to build a groundwood and board mill at Springfield, Lane County, three miles from Eugene, Oregon. Total investment has been estimated at $400,000. The company will make its own groundwood pulp, will buy its sulphite pulp, and will have one paper machine on which it will manufacture high grade board, bogus, tax, index and similar grades.

The California Corporation Commission has authorized the sale in that state of 8994 preferred and 4497 common shares in units of two preferred and one common at $101 per unit. Authorized capital is 10,000 shares of $50 preferred and 10,000 shares of no par common.

J. E. Smith, Miner Building, Eugene, is president. His San Francisco address is Hotel Sir Francis Drake. Irwin R. Gross, Russ Building, San Francisco, is vice president, and Carolyn Short, 326 O'Farrell St., San Francisco, is secretary-treasurer. C. C. Hockley, Spalding Building, Portland, pulp and paper mill consulting engineer, is named as engineer and under contract to build the plant.

P. J. Lamoureux is slated to be general manager and superintendent. Mr. Lamoureux has a long experience in the industry, having served with the Union Bag & Paper Corporation at Hudsons Falls, N. Y., for seven years; with Hollingsworth & Whitney, at Winslow, Maine, for one year; Newton Falls Paper Company, four years; Crown Willamette Paper Company, Camas, Washington, seven years; Oregon Pulp & Paper Company, one year; and several other mills.

It is said that Springfield has offered the company a site of several acres which it will accept. Power rates at this location are claimed to be as low as any in the United States. The territory is served by the Mountain States Power Company and the Municipality of Eugene. The site is served by the Southern Pacific main line railroad and lies within the Eugene yard limits. Eugene is the center of a prosperous agricultural and timber region, lying 125 miles south of Portland. It is proposed to market the product in the Pacific Coast territory.

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ROUND THE BEND AND ON THE CLIMB

One cannot climb a hill by cutting off the power. You've tried it. We've all tried it. It don't work. It is only by applying power that we ever climb hills.

That is exactly what the "chauffeurs" of industry are beginning to do. In fact, the old bus of better business is already around the bend and on the climb.

Having put our house in order we are going along. Mills that have done likewise are also going along.

Others, slower to sense the change for the better, may yet join the procession. But, to do so, they also must tune up---get ready for faster travelling---and without further delay. Timeliness---that's the word.

THE BLACK-CLAWSON COMPANY

HAMILTON, OHIO

Owners of Shartle Brothers Machine Company, Middletown, Ohio
Export Office, 15 Park Row, New York, N. Y.

The Mercury-Vapor Turbine

A 20,000-kilowatt mercury-vapor turbine generator is to be installed in Schenectady in a new power plant that will be outstanding in several respects, it has been announced by Burton L. Delack, manager of the Schenectady works of the General Electric Company. It will be the first outdoor steam plant; and it will be the first power plant ever to have coordinated industrial requirements and utility sources of power.

In addition to the 20,000-kilowatt mercury boiler and turbine, the new outdoor station will include a steam boiler to supply 300,000 pounds of steam per hour, in addition to the by-product output of 330,000 pounds per hour from the mercury condenser, for process, heating and testing steam in the G. E. works.

The mercury required in the boiler will weigh a quarter of a million pounds—but so heavy is this liquid metal that such a weight occupies a cubical space less than seven feet on a side.

Briefly stated, mercury offers decided advantages over water in turbine operation because it boils at a much higher temperature. The efficiency of any heat engine may be increased by increasing the temperature range through which it works—it is for this reason that steam turbines have been constructed to operate at higher temperatures, and higher steam pressures. The properties of mercury are such that high temperatures can be obtained without high pressure. For example, mercury vapor at a temperature of 958 degrees Fahrenheit has a pressure of 125 pounds gauge, while steam at a temperature of only 569 degrees Fahrenheit has a pressure of 1,200 pounds gauge.

Mercury is boiled and vaporized over a fire just as water is boiled and vaporized in a steam boiler. This mercury vapor then drives a mercury turbine, just as steam drives a steam turbine in an ordinary system. At the exhaust end of this turbine the mercury vapor is still hot enough to boil water and make steam at pressures which are in common use. Therefore, instead of circulating cooling water through the mercury condenser, as in the ordinary steam condenser, a level of water is held in the condenser just as in a steam boiler. The water boils and makes steam. A large part of the power generated from the mercury turbine is obtained at very high efficiency since the heat in the exhaust is not lost, but is used in the steam production.

A Little Extra Rain

Up there at Ocean Falls, B. C., most northerly mill on the North American continent, it often rains. In the mornings, noon hour, during the afternoon, evenings, and quite often at night. But rain piling down the rocky hills can do lots of work if harnessed. In a normal year—not too dry, you understand—Ocean Falls piles up a total precipitation of about 150 inches for the 12 months. That much moisture, in itself, is quite a bit of water.

This year, so reports come down from the North, the rain has been raining at the rate of about 200 inches per year. Now that IS wet. Where a year ago Pacific Mills, Ltd., which operates a 300-ton pulp and paper mill at Ocean Falls, experienced a shortage of power which tied up the mill for a time, this year there is plenty of water going over the dam. But, then, one can't control old Jupe Pluvius, you know.

Those who make paper at Ocean Falls get rather inured to the extraordinary precipitation. They don't mind it, and, if you ask the old timers up there, they'll tell you they actually like it. Doesn't seem right when it isn't raining.

Austrian Paper Production and Sales Below Normal

Austrian paper manufacture, once most flourishing among the country's industries, is now going through a period of stress and strain, according to advices received in the Department of Commerce from Assistant Commercial Attache De Forest Spencer, Vienna. The progress made in other countries, especially the Scandinavian, in the establishment of new paper mills and the installation of new machinery in the older mills has made it much more difficult for Austria to compete even in some of its long established markets. In recent months the stress of competition has been even more severe in view of the fact that domestic consumption has likewise been curtailed, reflecting the economic depression that now besets most of Central Europe, and some mills have been obliged to suspend operations for the time being, while others are operating on a part time basis. The present operation of the Austrian paper mills is estimated at about 50 per cent normal capacity.

Join Forest Service Research Branch

Burt P. Kirkland and Axel J. F. Brandstrom, professors in the College of Forestry, University of Washington, have accepted appointment in the Branch of Research of the Forest Service, according to announcement by Thornton T. Munger, Director of the Pacific Northwest Forest Experiment Station. The former will hold the title of Principal Forest Economist, and the latter, Senior Forest Economist. Both will be engaged upon a study of the economic aspects of forest management and exploitation, a field in which both have done notable work already and upon which they have frequently published.

Joins Envelope Firm

David J. Crickelair, who has been with the Los Angeles division of the Zellerbach Paper Paper Company in the mill and sales departments for a period of 16 years, has resigned his position to accept a partnership with George J. McNamara, of the Capital Envelope Company, which has been established in Los Angeles for the past decade. Mr. Crickelair's duties in the sales department of the Zellerbach house will be assumed by John Ganssle, formerly of the country sales department.

Western Mills Win Eastern Freight Rates

Evidence of increasing movement of paper products from Pacific Coast territory to Eastern markets is seen in the granting of a rate of 15c per 100 pounds from shipside, Brooklyn, New York, to Harlem River Terminal, N. Y., on carload lots of wrapping paper originating in Washington and Oregon. The case was based on shipments received by Schorsch & Company from the Crown Willamette Paper Company and the Longview Fibre Company, both Pacific Coast mills. The 54 shipments specifically cited aggregated some 2,000 tons.

Temporary Inconvenience; Permanent Improvement

A street widening program, which has seriously cramped the style of the Portland division of the Zellerbach Paper Co., is scheduled for completion sometime this month. Objectionable features of the project, insofar as the paper house executives are concerned, are inconvenience in handling incoming and outgoing shipments, and impaired parking clearance.

Ned Skinner, San Francisco, representative of the Martin-Cantine Company, paper manufacturers, spent part of January in Los Angeles.

Westminster Pioneers De-inking Process

J. J. Herb, president of Westminster Paper Company at New Westminster, B. C., is now one of the chief sponsors of a new de-inking process by means of which old newspapers may be converted into white pulp.

Two Vancouver men patented a proces for effecting this recovery some years ago, but lack of finances and other reasons prevented much progress being made. Now, however, that Mr. Herb has added his progressive and practical paper experience to the proposition, important results are anticipated.

The purpose of the new machine is merely to remove all the ink and coloring matter from printed newspapers and magazines. A complicated washing process has been devised to attain this purification, and the result leaves a white and smooth pulp estimated to be 98% pure.

Twenty thousand dollars have been invested in de-inking equipment at Westminster Paper Mills, and this investment is said to be already paying its way in the saving derived from the salvaging of old papers instead of buying new pulp. A new shredding machine is being installed to further increase the inefficiency of the process.

Old newspaper and magazine stock is first chopped up and then mixed with water and chemicals to dissolves the inks. The resulting dirty pulp is then sent through a washing process which yields pure white pulp.

For more than six months the company has been experimenting with the de-inking machinery, and only within the last couple of weeks has it been turning out de-inking pulp in commercial quantity. It is being used chiefly in the manufacture of high class grades of tissue papers and napkins.

The patents are held in every country of the world by the Canadian inventors, but the Westminster Paper Company for its share in developing the process pays no royalties. Mr. Herb also has a financial interest in the patents, which have aroused such widespread interest that experts from Japan and Great Britain have been pressing the company continuously for reports.

Colorado Mill Interests Back In the Courts

After the announcement last spring that the district court had accepted the sale of the Colorado Pulp and Paper Company, Denver, it was believed the mill was at last in hands making it free to move on toward a profitable existence. Such a happy situation has been set back, at least temporarily, by a recent decision of the Colorado Supreme Court, setting aside the sale, denouncing the judge who approved it, the receiver he appointed, many of the attorneys engaged in the extensive litigation and parties to the suits.

As it is the whole business of the Colorado Pulp and Paper Company is again thrown back into court, the claims of all creditors must be settled, the validity of bonds established and all agreements entered into by the contending parties are of no standing.

The affairs of the company have occupied the attention of the courts, state and Federal, for the past four years. Stock and bond purchases eventually placed the control of the concern into hands of others than the original founders. Two factions lined up and injunction suits and court hearings became the order of the day.

District Judge Samuel W. Johnson, on petition of one of the factions, declared a receivership in 1927 and appointed George W. Beck of Denver to the position. The receiver was hampered continually by the bickerings of the two factions until finally he was able to get them to agree to keep hands off. They agreed—but not for long. The whole matter flared up in the courts again. Judge Johnson finally ordered a sale at a receiver's auction and established an up-set price. During 1928 and 1929 several sale dates were announced. Some bids were received. No sale.

Meanwhile many suits were being aired in the courts and the mill was struggling along under these difficulties. Early in 1930 a bid of $228,000 was accepted —a sum far below the former established upset price— and the firm turned over to Rude and Bronstine. Creditors were not satisfied with this arrangement and it was they who instituted the suit to have the sale set aside.

The Colorado Supreme Court on January 13 ordered the sale set aside, reversed the order releasing the bond of the receiver, limited the discretionary powers of the receiver and further ordered that "all property and assets of every kind, belonging to or relating to the Colorado Pulp and Paper Company, by whomsoever held or controlled, shall be held to abide by the further orders of the district court."

The scathing criticisms in the opinion anent the district judge, the receiver and attorneys, let loose an avalanche of charges and counter charges. A petition was promptly filed asking that the receiver be made to return all fees and further petitions asked for the Supreme Court to withdraw its order setting aside the sale. These petitions state that a further sale might not bring as high a price as the last one and that with the return of the receiver's fees there will be sufficient money on hand to pay all general creditors.

At one time general creditors had agreed to receive 65% on the dollar. The sale did not bring them this much and the Supreme Court decision reinstated all claims on a 100% basis. It is reported that bond holders have been busy attempting to buy up unsecured claims at considerable discount since the decision was handed down.

The date for the hearing has not been set.

Pioneers In Paper

To mark the completion of 75 years in the paper business on the Pacific Coast, an entertaining and unique book entitled, "Pioneers in Paper, The Story of Blake, Moffitt & Towne," has just been published.

The book is full of reminiscence. It carries the reader back to many scenes of the early days before the famous gold rush times of '49 in California. Tracing the business from these pioneer times to the present the book portrays the steady development over three-quarters of a century of the institution, which covers the Pacific Coast territory with nearly a score of distributing branches located at strategic marketing points.

From the typographical standpoint the book is well done. Crane's Olde Book is used for the letterpress, Cloudweave Book for the illustrations and Italian Pressed for the cover.

Leadbetter Sues Crown Willamette on Patent

F. W. Leadbetter, president of several Pacific Coast paper mils, has instigated suit against the Crown Willamette Paper Company because of alleged infringement of patent rights on a method of oiling paper for fruit wraps on the calendar. The Crown organization is said to be using the process under suit at its Camas, Washington, mill.

Tall Tales from the Pulp Timber

"Why, this job aint nothin', son," remarked Pete the Papermaker, as he turned the steam on the digester. "You should've been with me the time old Rodney Moneymaker started the pulp mill in the petrified forest. Hm! We had problems.

"Old Rod—I used to call him Rod—he hated to see anything go to waste, and when someone told him about the petrified forest a layin' there, not bein' used, Rod says to me, 'Pete, we'll go down there and start a paper mill. Can you make paper out of petrified trees?'

"'Hm, Rod,' says I, "ask me another. That's an old one. Don't you ever read your history books where it says about the stone age and how the stenographers used to carry hammers and chisels instead of pencils and notebooks, and the postman drove a bull team?

"Well, me and Rod went down and started this mill. Course it was a little difficult in spots, such as chipping, f'r instance. We solved that problem by tying 100 sixteen-pound sledge hammers on the main engine flywheel. Didn't have to bother about no cut up plant. Just run a whole log under these hammers.

"Cooking was some different, because the bundles of fibres in them petrified trees was sure associated with each other. No, I can't give you no secrets on the cookin' time, but we did it. High steam and a long cook, that's all I'm gonna tell you.

"Come to blowpits, we handled the stock just like you would in a gravel pit. And the knotter, special type it was. Funny about that petrified wood, the knots always cooks up perfect round, and so the knots we screened out we sold for marbles to the boyhood of the nation.

"Course there was other troubles. Petrified stock is heavy, you know, and it wouldn't float and you couldn't hold it in suspension so very well. Well, we got around that by running it some ground cork, and the little cork pieces acted just like lifesavers for the petrified fibres and did the trick.

"What'd we make with the fibre? Well son, you'd be surprised. It depended on orders, of course. Sometimes we'd run stuff that we sold for corrugated sheet iron, and then again we'd run sheet marble. You could make a suit of clothes out of that petrified paper and what I mean 'it would wear like iron.' We were making a general line of 'heavy papers.'

"Everything was goin' well until Rod—he was always getting some idea—decided that if we mixed in a little cement for size that we'd improve the sheet. That was fine, only you had to keep that stock movin' or it would set and when we had a break in the sheet one day the whole darn machine just petrified and you couldn't move nothin' around that plant anymore. Yeh, we had our problems, but we were making progress, which reminds me, son, so put this in your hat. Don't say it can't be done just 'cause nobody ever did it, but don't let your enthusiasm get away either and try to improve everything at once.

"Better look at the steam, son."

Powell Pink Print to South America

Among recent shipments of the Powell River Company to the South American market was a stock of pink newsprint for La Critica, of Buenos Aires, second largest newspaper in point of circulation in the Argentine. The pink order is for use in publication of the newspaper's sporting editions. The Argentine consumes 110,000 tons of newsprint annually.

Champions Coast Boxmakers

That Seattle spends annually a quarter million dollars with eastern folding box manufacturers is the charge made by a speaker of the Western Merchants and Manufacturers, Inc., who spoke on "The Paper Box" over the Northwest Broadcasting System from a Seattle station the evening of January 29. His organization is composed of "independent" business men united to combat chain stores.

In his address the speaker enumerated amounts spent by several companies for folding boxes outside of local territory. "The folding paper box might be taken as a symbol, giving as it does a cross-section of what is going on in other local industries that are suffering because of leaks—leaks which would be prevented if chains and near-chains would buy their supplies locally," it was declared.

Behind the carton are the employes in the woods, in the pulp mill, in the paper mill, in the boxboard plant, and in the paper box factory. They are affected when money for boxes is sent to eastern concerns. There isn't a thing entering into the manufacture of a folding paper box that isn't available on the Coast. At a meeting of the Portland unit held January 22, Rufus C. Holman, president of the Pacific Coast Paper Box Manufacturers Association, spoke on "The Value of the Independent Business Man to the Community."

A Vast Pulp Timber Region

C. H. Crysdale of Vancouver has completed a report on the pulpwood and other resources of the so-called Pacific Great Eastern Railway Company and this has been submitted to the head offices of the Canadian National Railways and the Canadian Pacific Railway inasmuch as the two latter roads combined with the British Columbia government to carry out this investigation.

The two transcontinental railroads are now understood to be considering the advisability of taking over the Pacific Great Eastern, which is owned by the provincial government, and extending the line into the Peace River country. It is understood that the possibilities of the pulp industry are given as one of the chief justifications for development of the P. G. E., which would traverse the Prince George section, where for several years a large newsprint mill has been projected.

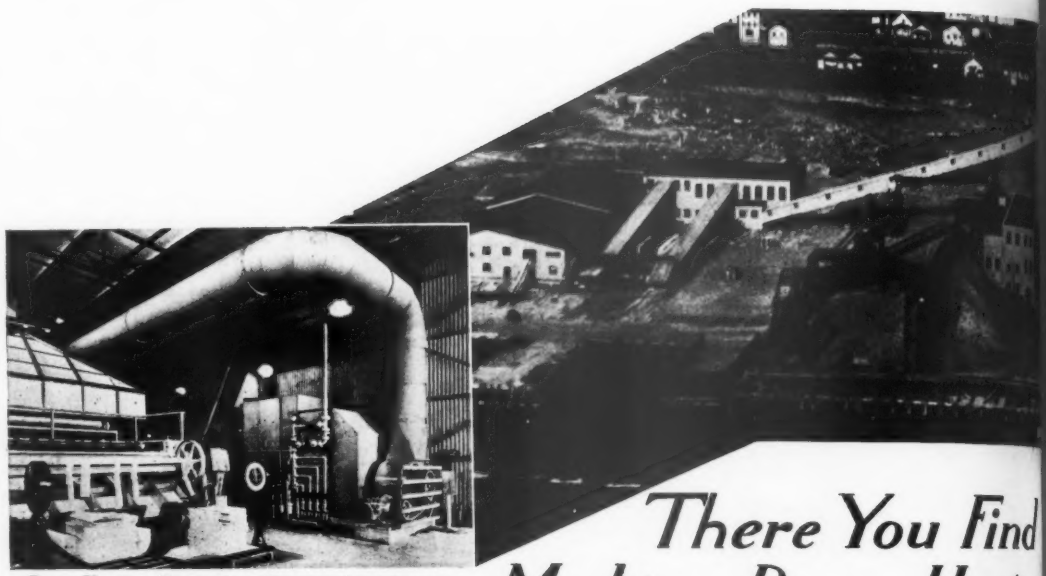
Premier S. F. Tolmie announced a few days ago that the provincial government definitely would not embark on a program of extension of the railway on its own account, without assistance of the Dominion government or private interests. The required extension would cost about $20,000,000, it is estimated.

I. P. Centralizing, Kraft in South

Bag manufacturing facilities of Continental Paper & Bag Corporation, a subsidiary of International Paper Company, have now largely been moved to the southern United States adjacent to mills of Southern Kraft Corporation, another International subsidiary.

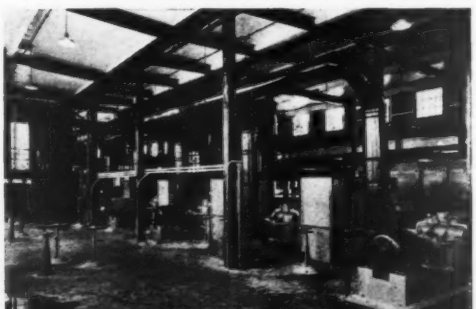
R. C. Cullen, president of Southern Kraft Corporation, has been elected president of Continental. In view of the location of Continental's two new bag factories at the Bastrop, Louisiana, and Mobile, Alabama, mills of Southern Kraft Corporation, this change will permit closer co-ordination in manufacture and in service to the trade. These two bag factories have a combined capacity of 35,000,000 bags per day.

Look Down and Into
THE PUGET SOUND



Ross Vapor Absorption System insuring a clear dry machine room and also increasing the drying capacity.

There You Find Machine Room Heating and Ventilating By



Bleaching Tanks showing Ross Equipment for Ventilating.

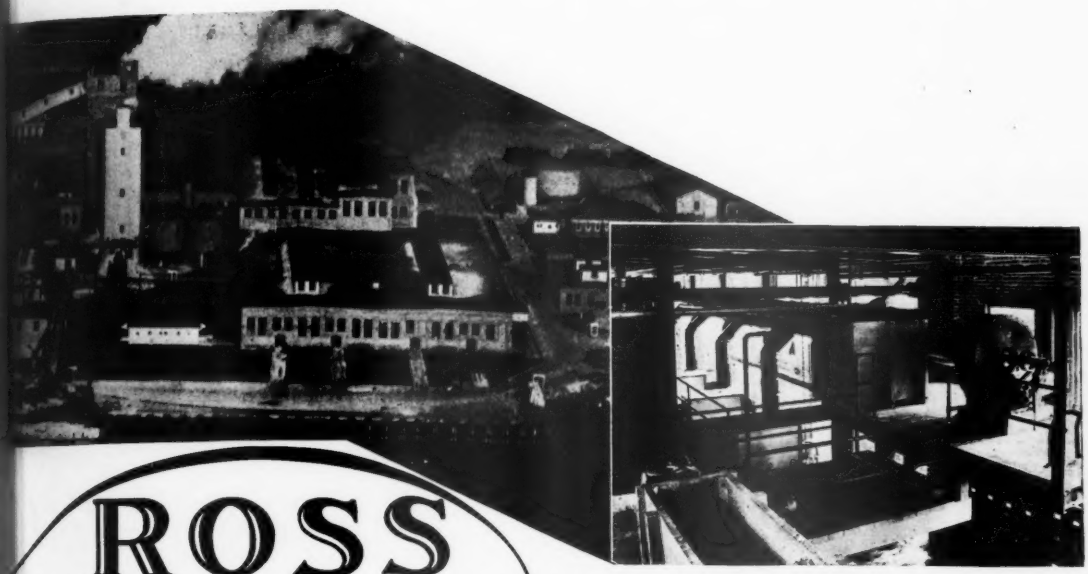
The new 175-ton bleached sulphite pulp mill at Everett, Washington, has focussed the attention of pulp and paper executives interested in modern plant design and equipment—including the method adopted for overcoming problems of ventilation and control of temperature and moisture in the processing.

J. O. ROSS ENGINEERING

ROSS SYSTEMS
HEATING—VENTILATING—DRYING

This Splendid New Mill

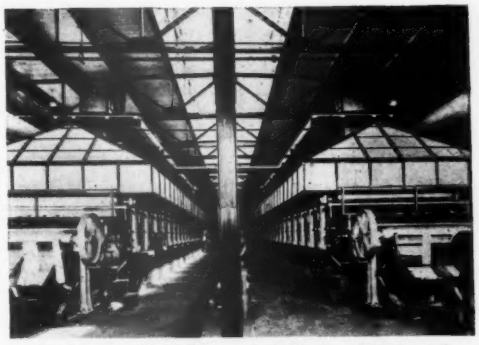
PULP & TIMBER CO.



Looking down on Bleach Tanks Ventilated by Ross Systems.

ROSS SYSTEMS

Temperature and moisture around the dryers, under the hoods, throughout the machine room is being effectively controlled by Ross Systems. For the ventilation of the bleaching tanks, Ross Systems were specified. Another of the industry's developments where Ross equipment was installed for maximum results.



Entire Machine Room and Dryers Equipped with Ross Conditioning.

CORPORATION

NEW YORK PORTLAND Ore. CHICAGO Ill.

ROSS SYSTEMS • HEATING—VENTILATING—DRYING •

PUBLISHED MONTHLY ON THE PACIFIC COAST
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OF PULP, PAPER AND BOARD

YEARLY SUBSCRIPTION
UNITED STATES AND CANADA $4
OTHER COUNTRIES $5

PACIFIC
PULP & PAPER
INDUSTRY

71 COLUMBIA STREET SEATTLE, WASH., U. S. A.

February 18, 1931

TO YOU WHO SELL TO THE PULP AND PAPER MILLS

Where under the sun is there a pulp or paper mill executive who is not looking for FACTS about his business? The desire for facts about operating costs leads naturally to the Pacific Coast which is now recognized as the outstanding source of cheap raw material and as the most desirable field for expansion.

For FACTS about this growing West Coast industry mill executives turn to our Annual REVIEW NUMBER as the only source of up-to-the-minute data on recent developments and future trends. But with the growth of the Pacific Coast industry's importance as a factor in world markets, comes the need for comparative data, not only about West Coast production but also about other producing centers both in this country and abroad.

So the 1931 REVIEW NUMBER, to be published March 31st, will satisfy this need for a reference book of greatly enlarged scope, combining in one handy volume the fundamental information about the world pulp and paper industry. It will occupy an unique position, there being no other book performing the same valuable service.

As the 1931 REVIEW NUMBER will be of greater service editorially it will also be of greater influence as an advertising medium. It will have long life. Previous editions are still in use and in demand. The REVIEW NUMBER is used frequently the year round. You can make it unusually effective in establishing and maintaining your own contacts with the alert, progressive mill executives, not only on the Pacific Coast but throughout the world, by the use of sufficient space to put across the story of your product or of your services.

Yours very truly,

PACIFIC PULP AND PAPER INDUSTRY

Ad Forms Close
March 10th

YOUR PAGE ADVERTISEMENT
in the 1931 REVIEW NUMBER
Will Reach Progressive Mill Executives Everywhere!

Progress on Neah Bay Breakwater Project

The office of the Chief of Engineers, War Department, Washington, D. C., advises that a preliminary examination of Neah Bay, Washington, is now in progress by Major John S. Butler, district engineer at Seattle. It is expected that the preliminary examination report will be submitted to the War Department early in February for review by the Board of Engineers for Rivers and Harbors, as required by law.

The Engineer's office assures that the question of improvement of Neah Bay by the Federal government will receive full and thorough consideration, including appropriate recommendation to Congress. Under the usual procedure, the preliminary investigations are concerned most with the economic necessity of the improvement, and not with the actual engineering involved.

The Neah Bay breakwater project has been actively supported by PACIFIC PULP & PAPER INDUSTRY as a needed improvement to protect industry. Within recent years pulpwood cutting has been developed on an important scale at Neah Bay. Hand cutting of cordwood has been practiced and, more recently, a modern wood mill and chipping plant capable of converting 300 cords per day has been installed and operated. The Neah Bay region, situated on the extreme Northwest tip of the timber-fertile Olympic Peninsula of Washington, contains some of the finest and densest stands of pulp timber in the world. Pulpwood operations are now seasonally handicapped, however, due to the unprotected harbor at Neah Bay.

Aside from the pulpwood resources, Neah Bay is headquarters for a fishing fleet which yearly carries on a business running into the hundreds of thousands of dollars.

Japanese Pulp Imports November, 1930

Imports of chemical pulp into Japan in November was in the following amounts (pounds): U. S. A., 550,533; Germany, 1,379,200; Sweden, 3,005,867; Norway, 2,481,333; Canada, 5,178,400; total, 12,595,333 pounds. There were no imports of mechanical pulp.

Bob Fuller Now at Camas

A. C. "Bob" Fuller, for seven years with the Ocean Falls, B. C., mill of Pacific Mills, Ltd., is now with the Crown Willamette Paper Company's big specialty mill at Camas, Washington. Mr. Fuller was boss machine tender at Ocean Falls.

IMPORTS OF PULP WOOD AND WOOD PULP INTO THE UNITED STATES BY COUNTRIES AND CUSTOMS DISTRICTS

November, 1930

Compiled by the U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce
(Figures Subject to Revision.)

PULP WOODS

	Rough				Peeled				Rossed			
	Spruce		Other		Spruce		Other		Spruce		Other	
	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
COUNTRIES—												
Soviet Russia in Europe					33,761	283,310			1,566	14,488		
Canada	7,669	75,089	238	2,260	33,666	411,009	3,412	31,339	678	7,784		
Total	7,669	75,089	238	2,260	67,427	694,319	3,412	31,339	2,244	22,272		

Total Pulpwood Imports, November, 1930—80,990 Cords; $825,259.

WOOD PULP

	Mechanically Ground				Chemical Unbleached Sulphite		Chemical Bleached Sulphite		Chemical Unbleached Sulphate		Chemical Bleached Sulphate		Soda Pulp, Unbleached and Bleached	
	Unbleached		Bleached											
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
COUNTRIES—														
Austria							1,000	58,840						
Czechoslovakia					52	2,742	178	10,665						
Finland	1,229	30,674	949	25,584	11,890	535,826	1,068	51,790	2,471	90,334				
Germany					1,005	60,244	2,826	178,110						
Lithuania					101	4,385								
Norway			225	5,623	300	16,448	1,848	119,491	1,434	56,345				
Poland and Danzig									301	10,358				
Sweden	433	10,982			39,344	1,932,485	5,189	310,565	30,507	1,073,658				
Yugo. and Albania					530	16,554								
Canada	16,607	437,812			15,394	624,907	15,208	1,020,864	4,154	267,182	747	65,350	83	5,050
Total	18,269	479,468	1,174	31,207	68,616	3,193,591	27,317	1,750,325	38,867	1,497,877	747	65,350	83	5,050
CUSTOMS DISTRICT—														
Main and New Hampshire		2,503	75,320	849	23,036	12,130	589,993	4,783	289,730	6,727	242,101			
Vermont	1,249	31,100			617	28,730	1,041	63,961	3,406	227,252	747	65,350		
Massachusetts					7,200	346,960	4,186	261,761	2,695	101,615				
St. Lawrence	2,357	67,610			1,666	86,339	2,956	208,568	428	24,162			26	1,378
Rochester					19	466								
Buffalo	925	22,723			3,507	135,021	815	66,423						
New York	51	1,292	225	5,623	8,725	419,456	2,406	126,528	940	29,709				
Philadelphia	818	21,492			8,240	426,339	998	61,977	4,293	156,104				
Maryland	1,329	34,881	100	2,548	15,254	752,240	3,621	213,356	11,728	435,989				
Virginia					200	10,923	154	10,259	1,364	49,068				
Mobile					55	2,162								
New Orleans					386	12,144								
Los Angeles					1,283	69,227			550	23,452				
San Francisco					374	15,684			44	944				
Washington					73	3,851								
Dakota	158	4,483					398	22,574	124	4,776				
Duluth and Superior	3,898	95,783			1,596	26,914								
Wisconsin	2,100	43,064			3,878	171,769	475	30,206	4,748	144,353				
Michigan	2,881	81,720			3,413	95,435	5,484	394,982	152	10,048			57	3,312
Chicago									1,668	48,304				
Total	18,269	479,468	1,174	31,207	68,616	3,193,591	27,317	1,750,325	38,867	1,497,877	747	65,350	83	5,050

Total Pulp Imports, All Grades, November, 1930, 155,073 Tons; $7,022,866.

In Noble & Wood Jordans It's "Precision"

Timken Bearing Equipped Precision Jordan built by The Noble & Wood Machine Company, Hoosick Falls, New York.

Therefore "Timken Bearing Equipped"

Precision performance in a Jordan engine mainly means that the plug must be kept exactly centered in the shell. If the plug shaft is allowed to get out of alignment, unequal wear on plug bars and shell lining results, causing a pronounced falling off in uniformity of material and volume of output.

Because of Timken tapered construction, extreme accuracy of manufacture, frictionless operation and Timken-made steel, Timken Bearings assure permanent plug shaft rigidity and alignment under all operating conditions. Refinement of stock is thereby always under control and production can be kept at full capacity.

Furthermore, filling replacement, which ordinarily constitutes one of the heaviest items of Jordan maintenance, is reduced to a minimum, power demands are considerably lowered and lubrication costs cut to the vanishing point.

And, finally, through Timken capacity to carry both radial and thrust loads—singly or in any combination and in any degree of severity—the stamina and life of the machines are greatly increased.

It's the same story of Timken ability to lick Industry's toughest jobs—wherever wheels and shafts turn. The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* **BEARINGS**

Backus Determined to Develop Cowlitz

"There has been no change in our determination to develop the Cowlitz River power, but the present business depression has naturally delayed all expansion of this kind," E. W. Backus, aggressive head of the extensive Backus-Brooks interests, informs PACIFIC PULP AND PAPER INDUSTRY from his Minneapolis office.

Mr. Backus holds preliminary permits to develop a major power project on the Cowlitz River in Southwestern Washington. The original permit, once extended, was recently re-extended by the Washington State Supervisor of Hydraulics. Naturally there has been an interest in the Cowlitz activities since Mr. Backus is such an important figure in the paper industry in Minnesota and the Great Lakes region.

In the several years during which Mr. Backus has held the Cowlitz permits he has had engineers in the field making test borings and securing other preliminary data. Some conflict has developed with the Grays Harbor Railway & Light Company—an interest of Sanderson & Porter—and it is known that the Grays Harbor company owns much of the land which would be covered in a lake created by the building of a dam by the opposition interests.

There is also quite a general feeling that the Backus-Sanderson & Porter interests are not so much at sword's points as surface strife would indicate, and that by the time actual development is proposed that amicable relations will exist.

Paper Mills Oppose Pollution Law

A proposed new state game code relating to the regulation of stream pollution introduced into the Oregon legislature, now in session, has been attacked by pulp and paper interests. A portion of the new code would make it prohibitive to introduce anything into a stream that would color the water. The paper mills have pointed out that such a law would prevent them from operating. Proponents of the law have said that pulp and paper mill refuse is a major cause of stream pollution in the state.

News Print Production

The News Print Service Bureau's Bulletin No. 156 states that production in Canada during December 1930 amounted to 184,755 tons and shipments to 188,845 tons. Production in the United States was 99,276 tons and shipments 99,062 tons, making a total United States and Candian news print production of 284,031 tons and shipments of 287,907 tons. During December, 23,648 tons of news print were made in Newfoundland and 1,369 tons in Mexico, so that the total North American production for the month amounted to 309,048 tons.

Adding to the production of the regular news print mills reporting monthly throughout the year, the small amount made by mills whose product is chiefly other grades, the total North American output of news print paper in 1930 was 4,082,678 tons, of which 2,499,631 tons was made in Canada, 1,281,502 tons in the United States, 287,259 tons in Newfoundland and 14,286 tons in Mexico. The Canadian output was 8.4 per cent less than in 1929, that in the United States 8.0 per cent less, with a gain of 12.4 per cent in Newfoundland and 23.5 per cent loss in Mexico, making a total continental decrease of 312,605 tons, or 7.1 per cent.

During December the Canadian mills operated at 59.5 per cent of rated capacity, the United States mills at 68.8 per cent and Newfoundland mills at 98.8 per cent. Stock of news print paper at Canadian mills totalled 36,777 tons at the end of December and at United States mills 32,061 tons, making a combined total of 68,838 tons which was equivalent to 3.9 days' average production.

	PRODUCTION				SHIPMENTS		
	Per Day Rating Tons	Per Month Actual Tons	Actual Tons Per Operat'g Day	Per Cent Rating (Totals per Mo.)	Tons Per Month	Per Cent Rating	MILL STOCKS
CANADIAN MILLS							
1930—December	11,940	184,755	9,398	59.5	188,845	60.8	36,777
Twelve Months	11,676	2,499,631	9,902	69.3	2,490,163	69.0	36,777
1929—Twelve Months	10,326	2,728,827	9,531	85.5	2,722,381	85.3	24,946
1928—Twelve Months	.....	2,381,102	.....	.....	2,399,030	.....	19,139
1927—Twelve Months	.....	2,086,949	.....	.....	2,062,749	.....	38,117
1926—Twelve Months	.....	1,881,737	.....	.....	1,878,746	.....	14,345
1925—Twelve Months	.....	1,522,217	.....	.....	1,523,150	.....	18,414
1924—Twelve Months	.....	1,352,994	.....	.....	1,344,757	.....	21,954
1923—Twelve Months	.....	1,266,232	.....	.....	1,257,521	.....	15,123
UNITED STATES MILLS							
1930—December	5,550	99,276	4,439	68.8	99,062	68.7	32,061
Twelve Months	5,441	1,281,502	4,498	76.0	1,267,195	75.1	32,061
1929—Twelve Months	5,612	1,392,276	4,611	80.0	1,409,239	81.0	19,023
1928—Twelve Months	.....	1,417,572	.....	.....	1,399,425	.....	34,469
1927—Twelve Months	.....	1,485,495	.....	.....	1,474,521	.....	20,877
1926—Twelve Months	.....	1,684,218	.....	.....	1,684,790	.....	12,030
1925—Twelve Months	.....	1,530,318	.....	.....	1,534,345	.....	16,238
1924—Twelve Months	.....	1,481,425	.....	.....	1,480,819	.....	23,757
1923—Twelve Months	.....	1,485,000	.....	.....	1,477,332	.....	23,669
UNITED STATES AND CANADIAN MILLS							
1930—December	17,490	284,031	13,837	62.5	287,907	63.3	68,838
Twelve Months	17,117	3,781,133	14,400	71.4	3,757,358	71.0	68,838
1929—Twelve Months	15,938	4,121,103	14,142	83.6	4,131,620	83.8	43,969
1928—Twelve Months	.....	3,798,674	.....	.....	3,798,455	.....	53,608
1927—Twelve Months	.....	3,572,444	.....	.....	3,537,270	.....	58,994
1926—Twelve Months	.....	3,565,955	.....	.....	3,563,536	.....	26,375
1925—Twelve Months	.....	3,052,535	.....	.....	3,059,495	.....	34,652
1924—Twelve Months	.....	2,834,419	.....	.....	2,825,576	.....	45,711
1923—Twelve Months	.....	2,751,232	.....	.....	2,734,853	.....	38,792

NORTH AMERICAN PRODUCTION					
	Canada	United States	Newfoundland	Mexico	Total
1930—December	184,755	99,276	23,648	1,369	309,048
Twelve Months	2,499,631	1,281,502	287,259	14,286	4,082,678
1929—Twelve Months	2,728,827	1,392,276	255,500	18,680	4,395,283
1928—Twelve Months	2,381,102	1,417,572	230,745	16,981	4,046,400
1927—Twelve Months	2,086,949	1,485,495	202,852	14,137	3,789,433
1926—Twelve Months	1,881,737	1,684,218	186,471	13,412	3,765,838
1925—Twelve Months	1,522,217	1,530,318	96,588	12,681	3,161,804
1924—Twelve Months	1,352,994	1,481,425	64,648	11,500	2,910,567
1923—Twelve Months	1,266,232	1,485,000	63,906	12,000	2,827,138

Large manufacturing concern in Middlewest making pulp and paper mill machinery, sawmill machinery, and special industrial machinery desires active representation on the West Coast. Commission arrangement very favorable. Line well known and high grade. Address Box 109, Pacific Pulp & Paper Industry, 71 Columbia Street, Seattle, Wash.

St. Helens Constructing New Unit

As January came to a close the kraft pulp and paper mill of the St. Helens Pulp & Paper Company at St. Helens, Oregon, had virtually completed an addition to its machine room as far as the building goes. When the mill was originally built in 1926, it was designed so that an addition to house a second paper machine could be constructed at any time without interfering with operations.

The new machine room is of modern type, fireproof construction. It adjoins the original machine room and has now become integral with it upon removal of what was formerly the outside wall.

While the building itself is virtually complete, the installation of the new 202-inch Beloit paper machine has not yet really started. This work will be in full progress, however, it is expected by early spring.

Meanwhile the 164-inch No. 1 machine continues to turn out kraft wraping papers for a number of uses, such as all kinds of bags from grocer's to multi-wall cement. Superintendent Emigh has been a busy man during the recent weeks of construction.

Market for Fibre Containers in Britain

There is a growing field for the fibre containers in the United Kingdom, according to a recent report from Trade Commissioner Martin H. Kennedy, the U. S. Department of Commerce representative in London. This new and intensive demand has been created by the movement to discard the more expensive wood containers that have been in use so long for the transport of parcels by rail.

With the increased use of fibre containers for export shipment, particularly of canned goods and similar commodities moving to Europe from the Pacific Coast, fibre has had an opportunity to demonstrate its superiority from the standpoint of both economy and durability and to acquaint the European shippers with this form of package.

Pacific Coast producers of fibre containers are in good position to tap the British market through the many lines of shipping plying directly between Pacific Coast ports through the Panama Canal to Europe.

Grays Harbor Mill Using Some Cordwood

The Grays Harbor Pulp & Paper Company at Hoquiam, Washington, which ordinarily secures the major portion of its wood requirements from waste of nearby sawmills, has recently been using about 30 per cent cordwood from the forests, due in part to the greatly curtailed output in the lumber industry. The Grays Harbor mill uses about 320 cords of wood daily.

Acoustic Board Made From Redwood Bark

It is learned that the Pacific Lumber Company of Scotia, California, is producing from redwood bark a sound-deadening board of good qualities. The long, stringy bark is treated in a pulverizer before fabrication. The company is also experimenting with a floor covering of good finish.

Alex Galloway, sales manager of the Oregon Pulp & Paper Company, Salem, Oregon, was a visitor to the trade in Los Angeles, recently.

Canadian Exports of Pulp and Paper December—1930

Canadian exports of pulp and paper in December were valued at $15,393,358, according to the report issued by the Canadian Pulp and Paper Association. This was an increase of $2,019,750 over the previous month and the highest total since May, 1930.

Wood-pulp exports for the month were valued at $2,577,546 and exports of paper at $12,815,812, as compared with $3,198,235 and $10,175,373 respectively, in the month of November.

Details for the various grades of pulp and paper are as follows:

	December, 1930		December, 1929	
Pulp:	Tons	Dollars	Tons	Dollars
Mechanical	17,775	454,329	14,382	437,519
Sulphite Bleached	15,483	1,070,739	18,469	1,393,578
Sulphite Unbleached	13,168	605,511	21,241	1,016,457
Sulphate	6,305	396,542	8,433	485,174
Screenings	1,724	26,939	3,321	50,198
All Other	423	23,486	.....	.....
	54,278	2,577,546	65,846	3,382,926
Paper:				
Newsprint	225,495	12,469,546	220,171	12,994,162
Wrapping	788	82,840	1,111	122,712
Book (cwts.)	1,769	15,635	5,087	45,539
Writing (cwts.)	18	450	.....	.....
Other	.....	247,341	.....	275,541
		12,815,812		13,437,934

For the year 1930 the exports of pulp and paper were valued at $177,500,222. For 1929 the total value of those exports amounted to $198,287,106, so that last year showed a decline of $20,786,884 or 10 per cent from the previous year.

Wood pulp exports for the year amounted to $39,059,979 as compared with $43,577,021 in 1929 and exports of paper to $138,440,243 as compared with $154,710,085.

Details for the various grades of pulp and paper are as follows:

	Year 1930		Year 1929	
Pulp:	Tons	Dollars	Tons	Dollars
Mechanical	208,759	5,967,172	209,331	5,906,638
Sulphite Bleached	249,099	17,954,714	253,810	19,246,692
Sulphite Unbleached	187,423	9,201,250	251,739	9,923,016
Sulphate	86,092	5,151,652	134,321	7,856,486
All Other	28,799	785,191	36,408	644,189
	760,172	39,059,979	885,609	43,577,021
Paper:				
Newsprint	2,331,011	133,280,932	2,510,633	148,656,611
Wrapping	13,181	1,381,462	14,903	1,628,261
Book (cwts.)	39,740	365,801	74,052	632,660
Writing (cwts.)	2,382	20,148	4,170	38,968
All Other	.....	3,391,900	.....	3,753,585
		138,440,243		154,710,085

Pulp wood exports have increased this year the total for the twelve months being 1,330,466 cords valued at $13,611,617 as compared with 1,294,995 cords valued at $13,314,738 exported in the year 1929.

Emerson Buys Dillon Machine

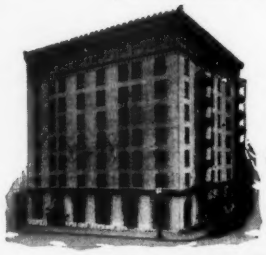
The Emerson Manufacturing Co., division of John W. Bolton & Sons, Inc., manufacturers of high grade paper making machinery, Lawrence, Mass., announces the purchase of all the property of the Dillon Machine Company of that city.

Founded in 1895 by Mr. Peter Dillon, the Dillon Machine Company have been found for many years widely known builders of paper mill machinery of improved design. The Dillon company will be operated as a division of the Emerson Manufacturing Company.

W. B. Reynolds, sales manager of the General Paper Company, San Francisco, announces that his firm has become distributor for a new line of watermarked sulphite bond, to be known as "Old Mission Bond." This comes in the usual sizes and weights in white and eleven other colors.

The HOTEL CONGRESS

The stopping place in Portland for Pulp and Paper Men.



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OREGON

200 Rooms—200 Baths

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Reasonable Rates Prevail.

LOUIS E. BOGEL, Resident Manager

Position Wanted

Beater foreman and colorman with 18 years' experience in paper mills making news, wrapping and tissue paper. Would like position with some mill located on the Pacific Coast. Temporarily located Portland, Oregon. Will call personally or interview.

Address reply, Box 108
Pacific Pulp and Paper Industry
71 Columbia Street Seattle, Wash.

Wanted

Man experienced in fine paper business to re-organize and manage this department of our business. Must have executive ability. References required.

INGRAM
PAPER COMPANY
1507 Rio Vista St.
Los Angeles, Calif.

The Norman Economizer

While no general installations have been made, an economizer designed to effect various economies in the operation of air-drying pulp machines has been built in an experimental way and actually used on a commercial scale at the Spaulding Pulp & Paper Company, Newberg, Oregon. The device is known as the Norman Economizer, taking its name from the inventor, Sigurd Norman, formerly superintendent at Spaulding and now with the Sumner Iron Works, Everett, Washington.

The objective of the Norman Economizer is fourfold, to increase the capacity of the pulp drying machine, to reclaim pulp formerly lost as lint, to conserve heat and to improve working conditions.

The device consists primarily of a condensing chamber thru which the heated air leading from the drying machine—air which is normally exhausted to outside atmosphere—is passed thru a series of showers. The condensing chamber is divided into a number of compartments set off from each other by baffles attached alternately to the top and bottom of the chamber.

Water jets are released in these compartments progressively. The water sprays precipitate loose particles of pulp in the exhaust air and absorb the heat. The heated water is returned to the vat of the wet machine ahead of the pulp dryer. This permits the wet machine to function on warm pulp and results in increased extraction of water by the mechanical means and the introduction of pulp to the drying chamber in a preheated rather than cold state.

Mr. Norman has observed that where cold water is used on the wet machine and cold pulp in the shredded sheet form is in troduced into the hot air of the drying chamber that the effect is to quickly dry and case-harden the outer layer of the pulp sheet and leave a damp core. The drying surface forms an insulation which retards further drying.

In actual operation the Norman Economizer has demonstrated its usefulness, the inventor points out. In a series of tests the efficiency of the wet machine was shown to have been increased by approximately 40% thru the use of hot water. Heat for raising the temperature of this water was solely that which had been reclaimed from the dryer box exhaust. The result was to increase the production and efficiency of the drying department of the mill in substantial proportion, while at the same time securing a better product.

Mr. Norman has secured patents covering his invention.

Oregon Mill Running Full Shift

Despite curtailed production schedules in most mills on the Pacific Coast and in the country as a whole, the 110-ton bleached sulphite specialty paper mill of the Oregon Pulp & Paper Company at Salem, Oregon, has been maintaining a six-day week, 24-hour shift program, it is reported. This is one of the mills operated by the F. W. Leadbetter interests under the controlling organization, the Columbia River Paper Company.

The company's annual payroll is computed at $600,000. This amount is paid out to some 400 employes. Annual expenditures for raw materials approximate $1,500,000.

Recently the company, after a long struggle, succeeded in having the city vacate a stub street adjoining its mill. On this property it is planned to build a new unit to be used for warehouse and finishing room. The company for about two years has had an idle machine, cylinder type, for which plans are now being made to modernize and again put it into operation.

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SIX
WILLAMETTE
DIGESTERS

for the **Weyerhaeuser Timber Company's New Sulphite Pulp Mill at Longview, Washington**

* * * * * *

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IN THE MAJORITY OF PACIFIC COAST PULP MILLS

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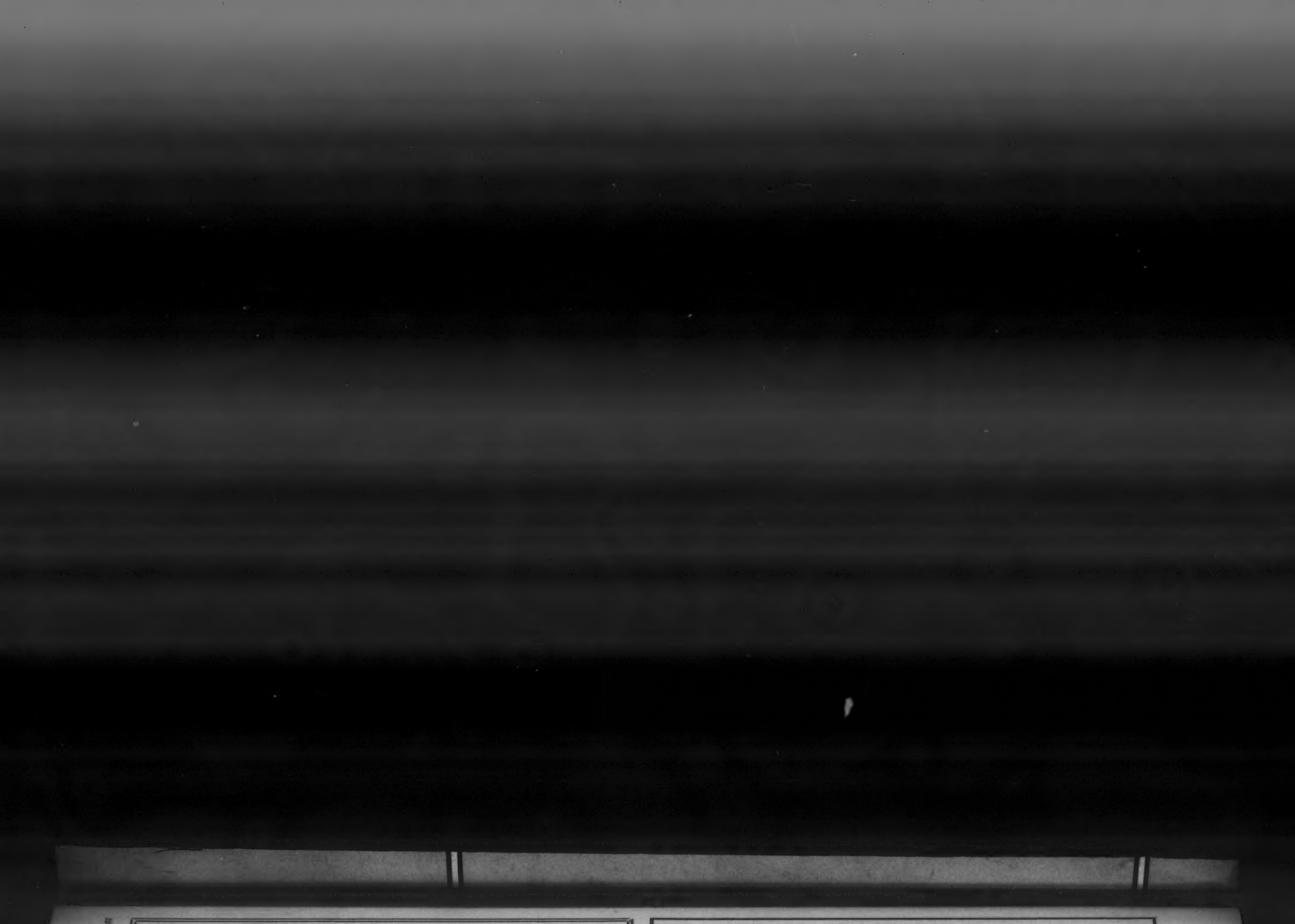
PORTLAND, OREGON